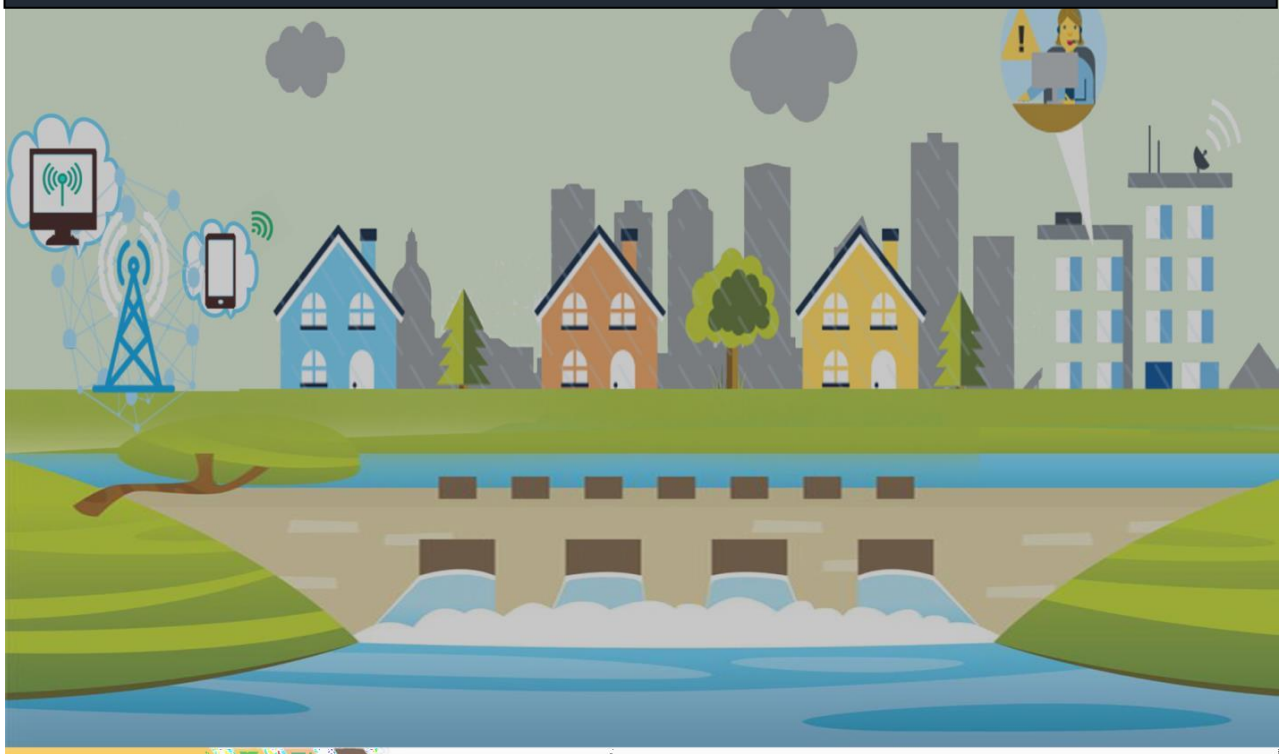
Water Resources Department

Government of Maharashtra, India

Design, Development, Implementation, Hosting, Operations, Maintenance of multi-site CMS based portal comprising META, MERI and CE-Hydrology Project & Dam Safety Nashik websites for Maharashtra Water Resources Department (MWRD)



Software Requirement Specification For DG-MERI

MECHATRONICS SYSTEMS PVT. LTD.

Water is Life, Conserve it for next generation...

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1 Acronyms or Abbreviation

MWRD	Maharashtra Water Resources Department
NDSAP	National Data Sharing and Accessibility Policy
CMS	Content Management System
EMD	Earnest Money Deposit
ESC	Engineering Staff College
IPR	Intellectual Property Right
OEM	Original Equipment Manufacturer
RFP	Request for Proposal
PBG	Performance Bank Guarantee
SLA	Service Level Agreement
QA	Quality Assurance
STQC	Standardization Testing and Quality Certification
META	Maharashtra Engineering Training Academy
CEHP	Hydrology projects and Dam safety
CDO	Central Design Organization
SLTAC	State Level Technical Advisory Committee
MERI	Maharashtra Engineering Research Institute
KWDT	Krishna Water Disputes Tribunal

2 DG-MERI

2.1 Introductions:

Our understanding indicates that the **DG-MERI** website is comprised of **multiple** distinct sub-websites operating under a unified Portal platform, which are as follows: - Hydrology Projects and Dam Safety Organisation (CEHP) - Maharashtra Engineering Training Academy (META) - Maharashtra Engineering Research Institute (MERI) - Krishna Water Disputes Tribunal (KWDT) - Central Design Organization (CDO) - State Level Technical Advisory Committee (SLTAC)

The primary objective of this project is to develop an open-source, content management system (CMS)-based multi-site portal that encompasses Six institutes: META, MERI, and the CE-Hydrology Project & Dam Safety Organisation, Nashik Krishna Water Disputes Tribunal (KWDT) - Central Design Organization (CDO) - State Level Technical Advisory Committee (SLTAC). The portal will cater to different user roles, including admin users and general users specific to each institute.

2.2 Scope Of Work:

2.2.1 In Project scope

The DG MERI Portal project aims to develop a centralized platform that connects six affiliated institutes, providing seamless access to their resources. The portal will feature a user-friendly interface, a robust content management system (CMS), and secure access for various user roles, including students, staff, employees, and general visitors. The website will offer an increased portfolio of DG- MERI services to a general public.

2.2.2 Out of Scope

• Website Hosting. We will procure and bear the cost of SSL including Disaster Recovery (DR) sites. However, if required Department would release a purchase order and authorization if required but cost shall be borne by the SI. Single domain SSL is expected.

• Content Writing. We will support the department in content entry within the website.

• Photo/Audio/Video shooting/Collection

• Ongoing website content management. We will extend full support in data and content migration whenever needed from any applications of MWRD.

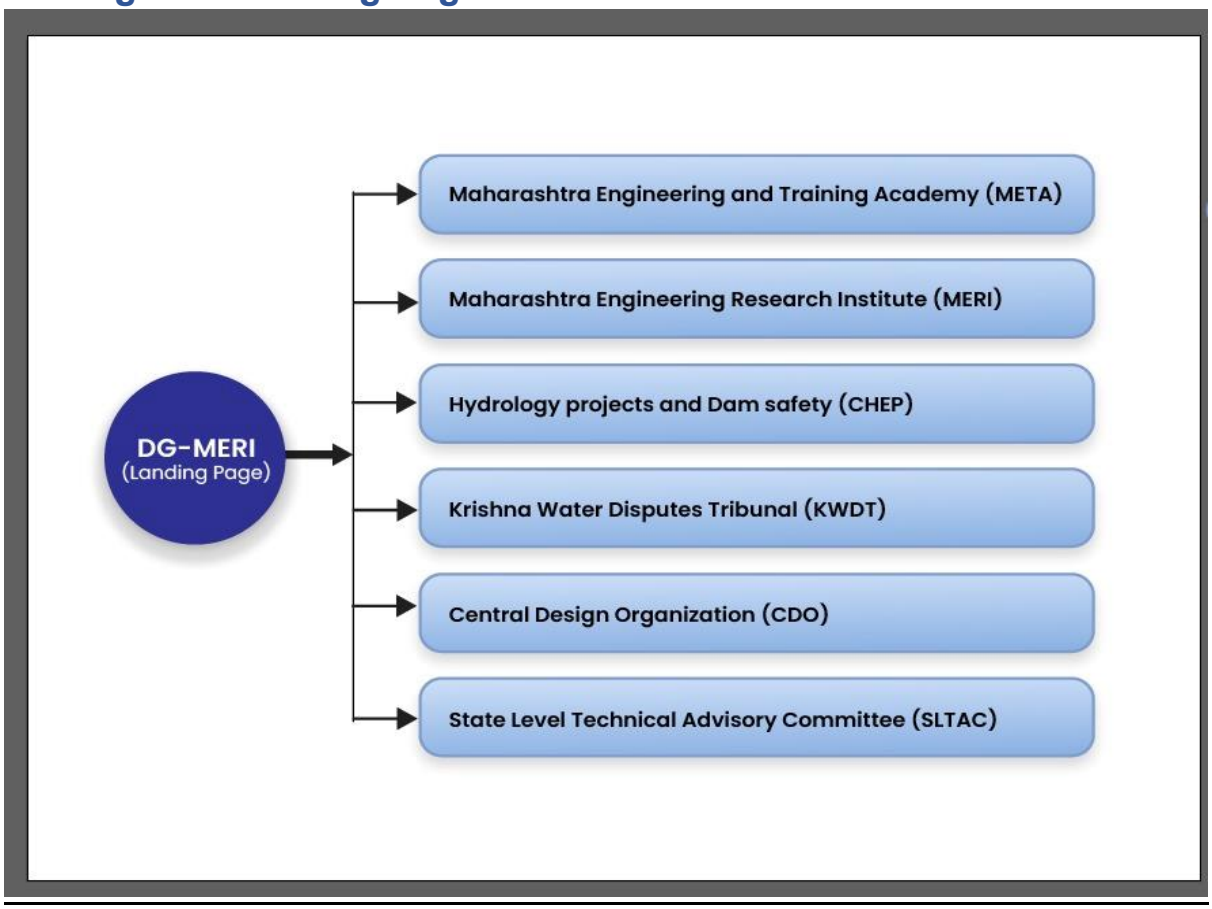
2.3 Business Context:

This Document is our SRS for development of The Maharashtra Engineering Research Institute (MERI) website. The Maharashtra Engineering Research Institute (MERI) was established in the year 1959. It is the prime institute of Maharashtra state under Water Resources Department. It is entrusted with the work of applied research in various disciplines of civil engineering like soil mechanics, construction material

studies, testing, highway, coastal, remote sensing & GIS, seismology, hydraulic model studies, reservoir sedimentation studies etc. It is largely dealing with field problems of applied research pertaining to various projects. Being the state research institute, its jurisdiction is spread over the entire Maharashtra state covering the water resources and public works

The Maharashtra Engineering Research Institute (MERI) wants to develop a comprehensive, secure website to ensure compliance with GIGW and to integrate easy to use content management system for easily managing overall content of the website.

2.4 Figure 1.Landing Page Flow--1



2.5 User Interface Layer (Presentation Layer)

This layer handles **user interactions**. It includes various user roles that interact with the system based on the permissions assigned to them.

Users:

1. **Super Admin**
    - Highest level of access; manages the entire system (add, edit, update, delete).

2. **Admin**
    - Handles tasks like managing data (add, edit, delete) within the boundaries set by the Super Admin.
3. **Staff**
    - Focuses on validating, checking, and updating data for internal use.
4. **General Users**
    - Public-facing role, primarily to search and retrieve data from the system.

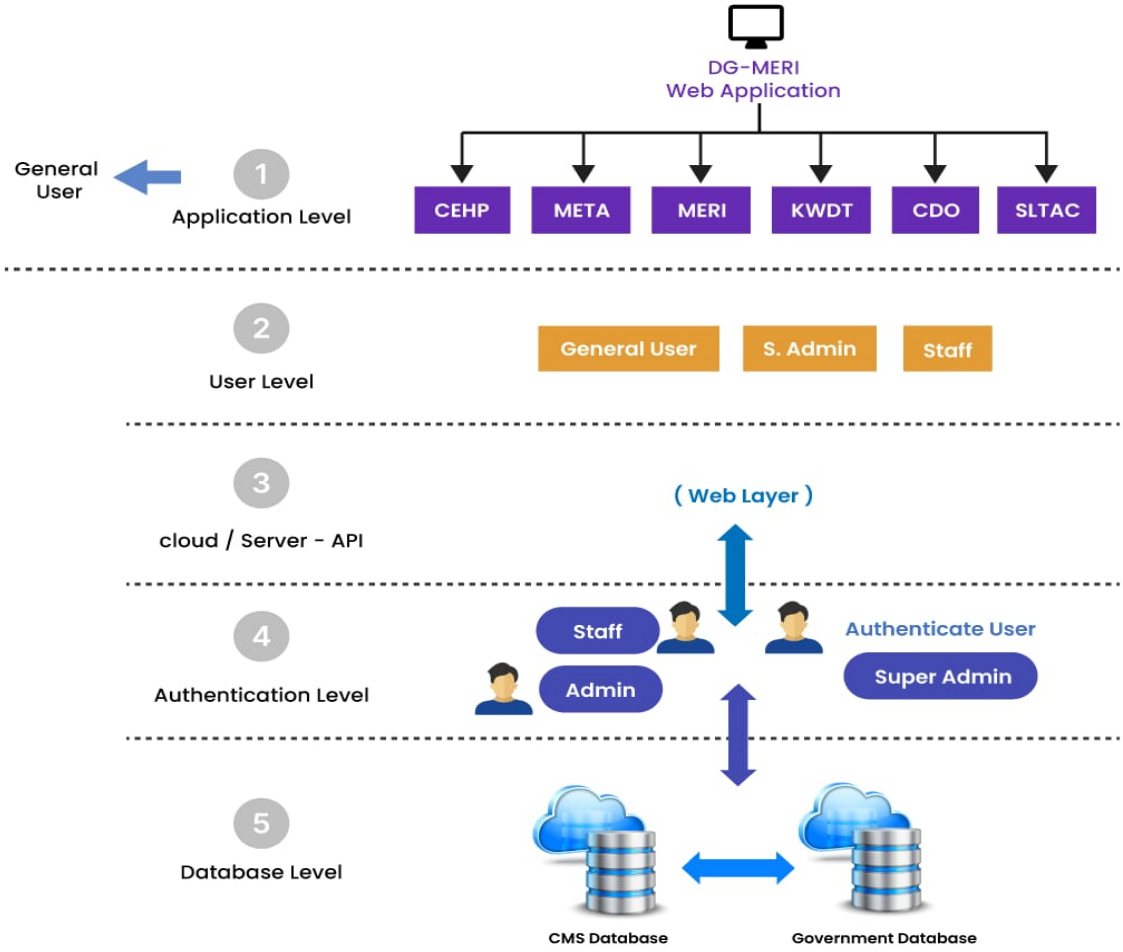
Cloud Server (API) Layer

- **API Gateway**:

- Acts as a bridge between the web application and the data storage.
- Manages requests and responses between the application and the database.
- Ensures security, scalability, and performance optimization.

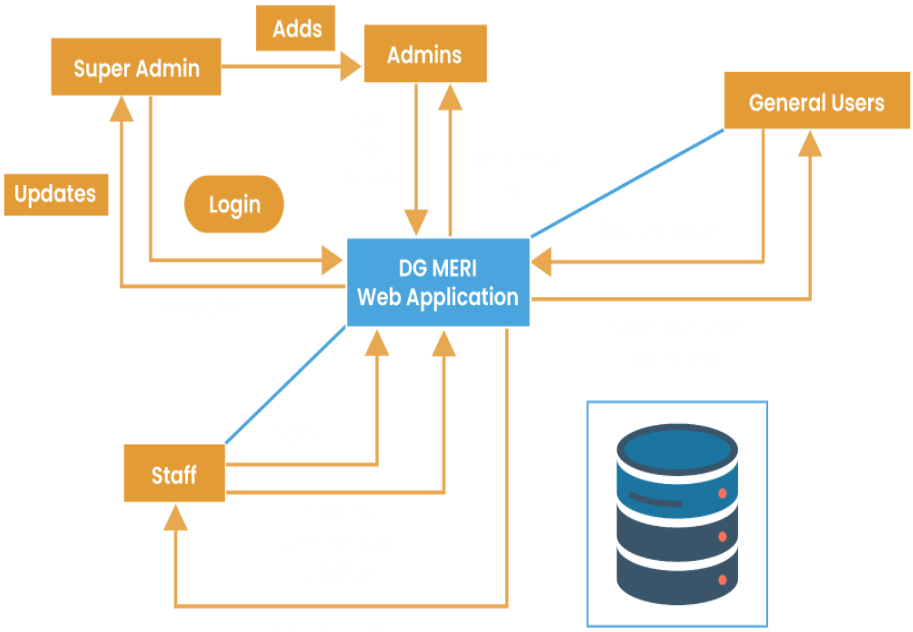
2.6 System Architecture

Hierarchical Model of 'DG-MERI' Landing page

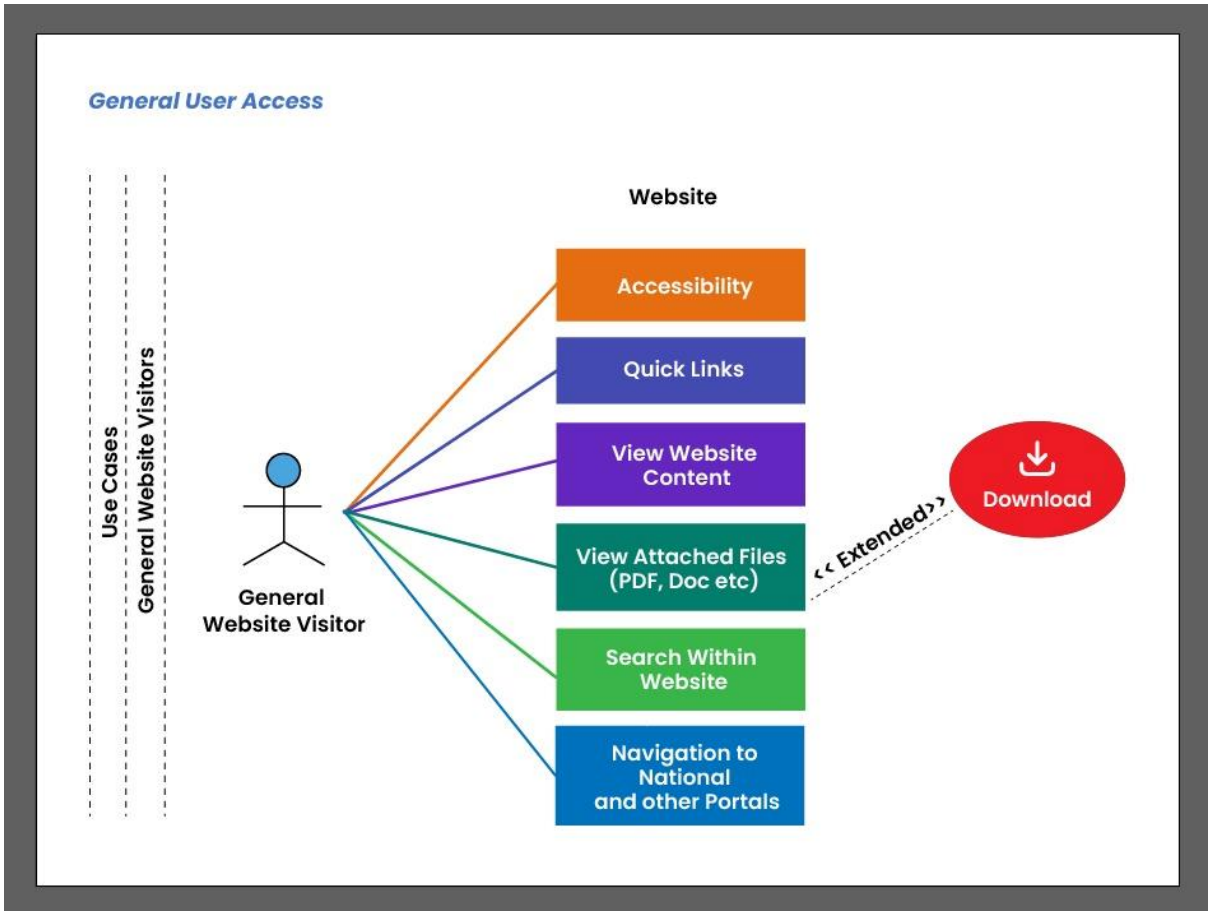


2.7 Application Architecture

Context diagram



Use case for General users :

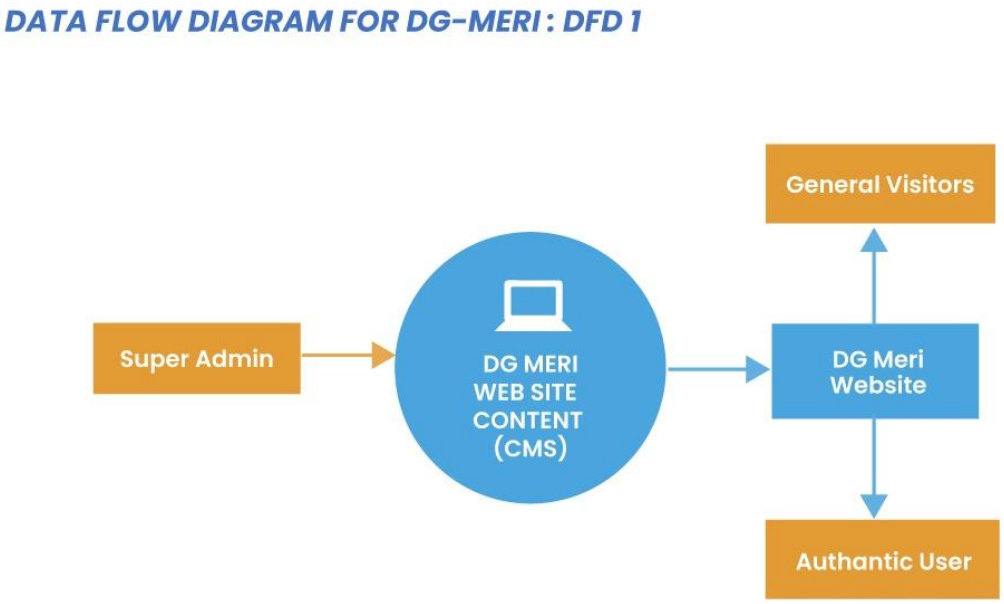


Description :

The Proposed Flow has been given for General Users who will able to see the web contents and access the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.

7.Data Flow Diagrams: DFD 1 & DFD 2

DFD1:

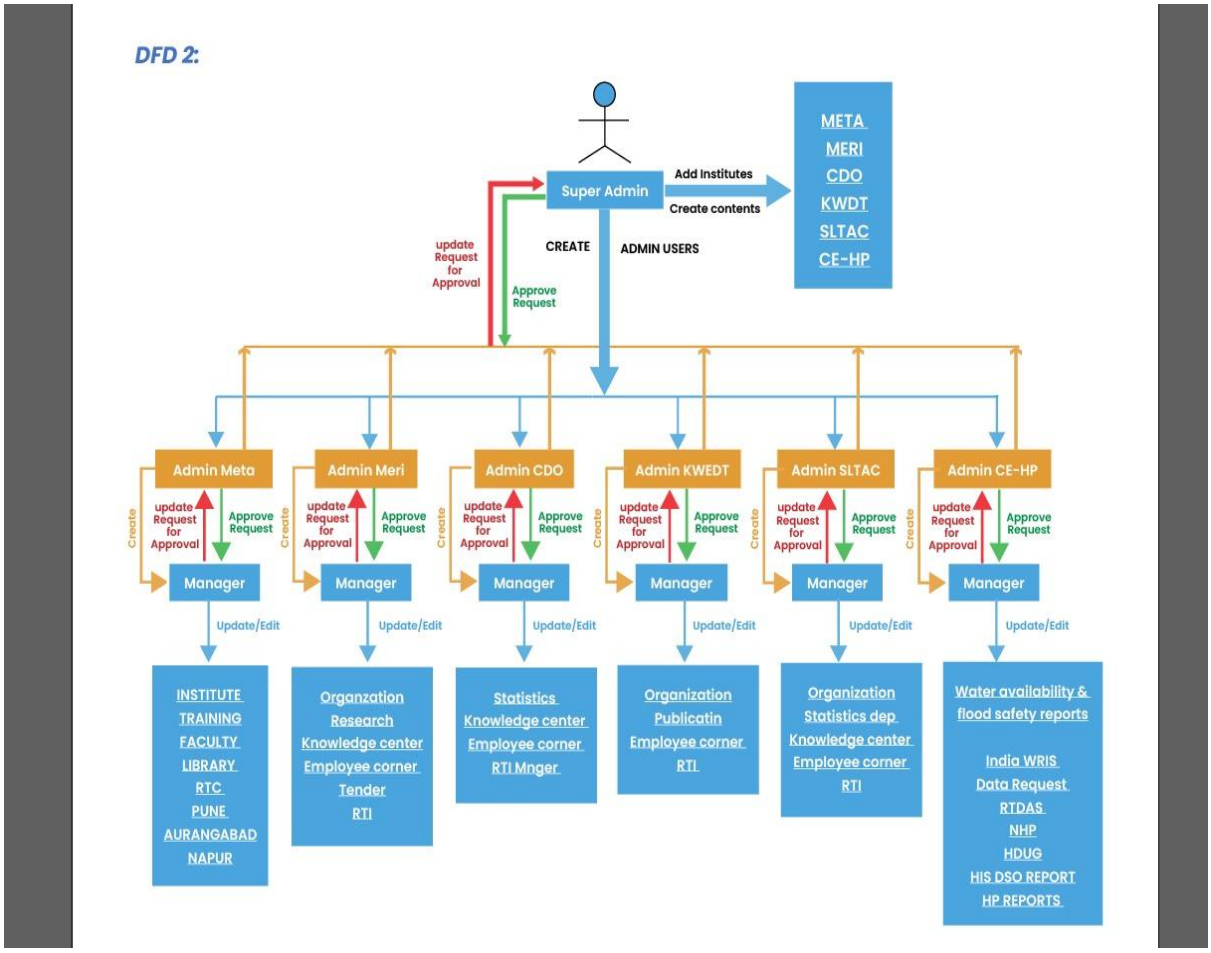


The diagram begins with the Super Admin, who has control over the content of the DG MERI Website Contents (CMS). The Super Admin can manage or update the data stored in the CMS.

The CMS (Content Management System) acts as a central hub for managing the data and content of the DG MERI Website. It receives inputs from the Super Admin, who controls the contents.

This CMS handles all the information that is displayed or made available to users on the DG MERI Website.

DFD – Level 2



2.8 Description:

At the top of the hierarchy, there is the **Super Admin**, who has authority over all the administrators of different institutions.

The Super Admin is responsible for:

- Adding institutes to the system, as shown in the arrow labelled **Add Institutes**.
- Creating admin users for each of the institutions.
- Managing content creation.

The **Super Admin** manages five institutes:

- META
- MERI
- CDO
- KWDT
- SLTAC
- CE-HP

These institutions each have a respective **Admin** (e.g., Admin Meta, Admin MERI, etc.), responsible for overseeing the data related to their institution.

Each institution is managed by an individual admin:

- **Admin Meta**
- **Admin MERI**
- **Admin CDO**
- **Admin KWDT**
- **Admin SLTAC**
- **Admin CE-HP**

The admins are tasked with two primary responsibilities:

- **Creating** new content or entries for their specific institution.
- **Updating/Editing** data related to the institution.

Each admin can perform two key actions:

- **Update Request for Approval**: This is represented by the red arrows. The admins can send an update or a change request that requires approval.
- **Approve Request**: Represented by the green arrows, the Super Admin can approve or reject the requests for updates made by the individual admins.

The flow of requests and approvals helps maintain data consistency and ensures only approved content gets published or modified.

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Each institution has specific types of data or services they manage, which are categorized at the bottom of the diagram. These categories include:

- **Admin Meta**: Responsible for Institute-related data such as training, faculty, library, and other centres located in places like Aurangabad and Nagpur.
- **Admin MERI**: Manages organizational data, research, knowledge centres, employee-related information, and RTI (Right to Information) requests.

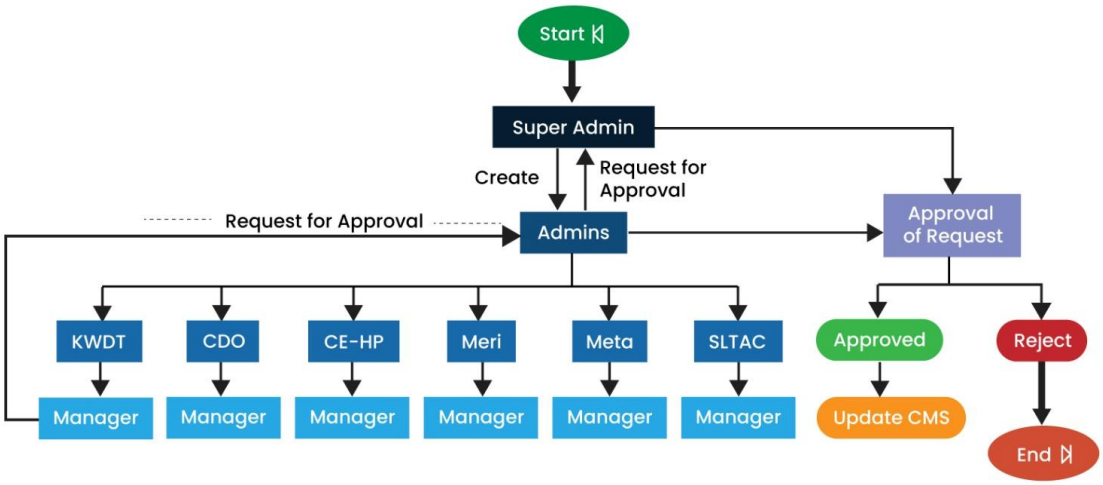
- **Admin CDO**: Focuses on statistics, knowledge centers, employee information, and RTI.
- **Admin KWDT**: Manages organization publications, employee information, and RTI requests.
- **Admin SLTAC**: Handles statistical data, knowledge centers, employee information, and RTI.
- **Admin CE-HP**: Oversees water availability, flood safety reports, and additional technical data such as India WRIS, HIS DSO reports, NHP, and others.

The types of content and functions that each admin and manager handle are quite diverse, ranging from:

- Employee-related services
- Statistical and research data
- Tender management
- Knowledge centres
- RTI (Right to Information) requests
- Water safety and environmental data (in the case of Admin CE-HP)

2.9 Business Process Flow:

This high-level explanation provides clarity on the roles, data flow, and processes involved in the system, which can then be broken down further into more detailed diagrams or business processes based on your software requirements.



2.10 Key Stakeholders and Roles:

- **Super Admin, General Users, Authenticated user** are the primary stakeholders in the system.
- Define each role's permissions and what actions they can perform in the system.
    - **General Users**: Access the system to search and view updated data.

2.11 The Core Components:

- **DG MERI Web Application** is the central system where all interactions happen. It connects users and roles to the data they need.
- **Database**: Stores all the critical data which is updated, retrieved, and processed by different user roles.

2.12 The Business Processes:

- **Super Admin Operations**:
    - The Super Admin logs into the system and performs high-level tasks such as adding or updating data, which the admins manage.
    - They also have access to reports and other system-wide functionalities.
- **Admin Operations**:
    - Admins add, edit, or delete data, which is then updated in the web application and made available for General Users.
    - They receive updated data from the system.
- **General User Operations**:
    - General users search for data in the system and retrieve the necessary information.
    - They receive responses based on their requests from the database.

2.13 Data Flow Explanation:

- The system revolves around the **DG MERI Web Application**, where:
    - **Super Admin**: Adds/Updates data → System stores the data.
- All interactions are logged in the **database**, ensuring the system can respond with accurate data to user requests.

2.14 Login and Security:

- Each user role logs in based on their role to ensure secure access and appropriate permissions for data access and updates.

2.15 Overall Description:

The system is designed as a **website application** that serves as a platform for disseminating information to the general public. The content of the website will be managed through an **open-source Content Management System (CMS)**, enabling administrators to efficiently control and update information.

2.15.1 Product Functions

The primary function of this product is to act as a **website application** with specific capabilities defined by the following parameters:

- **Content Management**: The system allows for easy management and updates of website content.
- **Compliance with GIGW Guidelines**: The website will include features that align with **Guidelines for Indian Government Websites (GIGW)** standards.

2.16 Content Management System (CMS)

The CMS module will empower administrators to make changes to the website content seamlessly. Its core features include:

1. **Dynamic Menus**:
    - The CMS allows the creation of menus and submenus dynamically based on the page tree structure. New menus can be easily added as required.
2. **Content Management**:
    - Administrators can manage various content types, such as text, images, and documents, using the CMS.
3. **Bi-Language Support**:
    - The system supports content management in **both English and Marathi** from a unified control panel, allowing administrators to add content in both languages from the same interface.
4. **Audit Trail**:
    - Administrators can view and track changes made to the database, with access to a global log or individual logs for each page.
5. **User Privileges**:
    - Admins can assign control and access rights to specific modules based on user roles and requirements.
6. **Metadata Insertion**:

- Metadata can be inserted for each page or applied globally for different languages, enhancing SEO and content organization.

7. **Search Engine Friendly URLs**:
   - The system will utilize URL rewriting to generate clean and relevant URLs, making the site more **search engine friendly (SEF)** and improving usability.
8. **Rich Text Editor**:
   - The CMS features a **Rich Text Editor (RTE)** with Microsoft Word-like functionalities, supporting multiple platforms such as Mac/Safari and Mozilla Firefox. Editors can be customized with buttons and CSS styles.
9. **CSS Styled Content**:
   - Core functionalities and extensions of the website can be styled using **CSS**, ensuring a consistent look and feel.
10. **Online Administration**:
    - All administration tasks will be performed online via a **web browser**, enabling easy management from any location.
11. **Minimal Training Required**:
    - Editing content will be intuitive and user-friendly, similar to editing in Microsoft Word. As editors add pages, **menu links** will be automatically generated. The system also includes wizards to assist users with content creation, reducing the learning curve.

2.17 Compliance with Government "Guidelines for Indian Government Websites"

The Government of India has launched "Guidelines for Indian Government Websites". The Website is to be developed as per the guidelines defined and ensure complete compliance with the GIGW. The website will be developed based on guidelines compliant template for Information Architecture (IA) / Navigation Structure and User Interface (UI) design so that it as per GIGW guidelines and is universally accessible.

1) Accessible Website Structure: To help in ensuring that the Website is universally accessible. The following will be done to ensure accessibility:

a) Develop Screen Reader Friendly Website.

b) Restructure overall content with proper tagging to make them screen reader friendly.

c) All items will be appropriately aligned on the pages and layout will be consistent on all the related pages.

d) Limit the amount of white space (areas without text, graphics, etc.) on pages that are used for scanning and searching.

e) Style & colour scheme will be consistent across the site.

f) Navigation tabs will be located at the top of the page, and look like clickable versions of real-world tabs.

g) The navigation elements will be clearly differentiated from each another and will be placed in a consistent way so that it can be easily located on each page.

h) Site maps will be available with all the links of pages existing on the Website and link for the site map will be clearly visible on the homepage.

i) Scrolling & Paging: The horizontal scroll bar will be strictly eliminated during the page design. Appropriate page layout will be designed to eliminate the need for users to scroll vertically on part of the Home Page.

j) Heading, Titles & Labels: Headings will be used in their appropriate HTML order and heading levels will not be skipped.

k) All pages will have category labels including links and clearly reflect the information contained within the category.

l) Ensuring compatibility with popular browsers like Internet Explorer, Mozilla Firefox etc.

2.18 General Public Perspective

From the **General Public's Perspective**, the website application will be designed with a focus on accessibility, ease of use, and bilingual support. Key features include:

2.18.1 a) Bilingual Management Module Development:

- The website will support **Unicode 5.1/6.0 standards** for bilingual functionality, allowing both the user interface and database to be available in **Marathi and English (India)**.
- Users will be able to switch between languages for labels and captions and can input their data in the language of their choice, ensuring flexibility for all users.

b) Website Accessibility:

The website will include features that prioritize accessibility to ensure it meets the needs of all users, including those with disabilities. The core features include:

1. Text Alternative to Images:
    - Text descriptions will be provided for images using alternative text tags (Alt=""), ensuring compatibility with assistive technologies like screen readers and magnifiers, making the website accessible to visually impaired users.
2. Low Bandwidth Compatibility:

- The website will be optimized for all types of internet connections, including dial-up, broadband, leased lines, and mobile internet, ensuring access for users in remote locations with limited internet speeds.

3. Text Resize:
    - Visitors will have the option to adjust the font size by increasing or decreasing it up to two levels. This feature will aid those with visual impairments, especially the elderly, in reading website content comfortably.
4. High Contrast Design:
    - The website will offer a high-contrast mode (black background with white or yellow text) to ensure clear readability for users with visual impairments, adhering to a contrast ratio of 7:1.
5. Screen Readers Compatibility:
    - The website will be compatible with screen readers, and links to download common screen readers will be available, ensuring visually impaired users can navigate the website efficiently.
6. Timing Adjustable Content:
    - For any content that moves, blinks, or scrolls for more than 3 seconds, features like pause, stop, or play will be provided (e.g., for news and announcement sections). This allows users more control over how they interact with dynamic content.
7. Hyperlinking Policy:
    - For all external links, a message will be displayed notifying users that they are leaving the website and that the department is not responsible for external content. Links will open in a new window, ensuring clarity and ease of use for users.
8. Easy Navigation:
    - The website will include links such as skip to main content, site map, site search, and skip to navigation on every page. These links will allow users to bypass redundant information and navigate directly to the core content.
9. Keyboard Accessibility:
    - The website will be designed to be fully accessible via keyboard. A list of commands will be available, allowing users to navigate and interact with the website without a mouse.

c) **SEO Optimization:**

- Search Engine Optimization (SEO) techniques will be applied to ensure that the website ranks higher in search engine results, making it easier for users to find the website and its content.

2.18.2 d) Integration of Google Maps and Google Analytics:

- The website will incorporate Google Maps for location services and Google Analytics for tracking website traffic and user behaviour. This will help administrators understand visitor interactions and improve the website accordingly.

2.19 Dependencies & Assumptions

Bi-lingual version: The CMS should automatically generate Marathi Pages for all the English Language Pages. If website doesn't enter content for the Marathi page, then it shall appear as blank to website visitors.

b) **Archive Module:** The system has a Date and Time stamping of all Data entered through Admin in different applicable sections of the Website.

c) **Document File Format:** Website will only support XLS, DOC, DOCX, JPEG, PDF format only.

d) **Technical Support:** Agency would provide technical maintenance for the Website, which would essentially mean rectification of errors. For addition of new functionality / pages separate proposal would be submitted after understanding the requirement.

e) **Certificate on Completion:** The application would be launched only after the receipt of completion certificate from user.

2.20 Operating Environment

Operating System	Windows 2012 R2 Standard 64 bit or Linux
CPU	Core 16
RAM	16 GB
Disk Space	250 GB SAS
With Below Software:	
Programming Language/Software	PHP 5.6 and above
Web Server	Apache or IIS 8.5
Database Server	MYSQL 5.0 and above
Hosting Server:	Cloud or NIC
Operating System	Linux or Windows 2012 R2 Standard 64 bit
Testing Tool	

1. We will check design for Browser (Mozilla 40 & higher/ IE 11 & Edge/ Chrome 50 & higher/ Safari 7.0 & higher – Windows/Mac OS).
2. We would keep mobile website compatible to all iPhone 5/5S/5c, iPhone 6/6 plus/6s/6s plus, 7/7 plus, 8/8 plus, iPhone X/XS/XR, iPad 2/3/4, Pro & mini as well as android mobile devices with resolutions 720 x 1280, 1080 x 1920, 1440 x 2560 for portrait orientations.
3. Website would be W3C, WCAG and GIGW compatible.
4. Website would follow DIT guidelines.

2.21 Constraints

- The information of all the users must be stored in a database that is accessible by the website admin.
- The Staff member must have the computer knowledge to successfully utilize the product function of the website specially the Site Administrator and Department officials.
- We will check design for Browser (Mozilla 40 & higher/ IE 11 & Edge/ Chrome 50 & higher/ Safari 7.0 & higher – Windows/Mac OS).
- We would keep mobile website compatible to all iPhone 5/5S/5c, iPhone 6/6 plus/6s/6s plus, 7/7 plus, 8/8 plus, iPhone X/XS/XR, iPad 2/3/4, Pro & mini as well as android mobile devices with resolutions 720 x 1280, 1080 x 1920, 1440 x 2560 for portrait orientations.
- Website would be W3C, WCAG and GIGW compatible.
- Website would follow DIT guidelines.

2.22 Dependencies & Assumptions

a) Bi-lingual version: The CMS should automatically generate Marathi Pages for all the English Language Pages. If website team doesn't enter content for the Marathi page then it shall appear as blank to website visitors.
b) Archive Module: The system should have a Date and Time stamping of all Data entered through Admin in different applicable sections of the Website.
c) Document File Format: Website will only support XLS, DOC, DOCX, JPEG, PDF format only.
d) Technical Support: Agency would provide technical maintenance for the Website, which would essentially mean rectification of errors. For addition of
e) new functionality / pages separate proposal would be submitted after understanding the requirement. e) Certificate on Completion: The application would be launched only after the receipt of completion certificate from user.

2.23 Specific Requirements

2.23.1 External Interface Requirement

System Features

2.23.2 Front end Features

a) Screen Reader Access
b) Accessibility options
c) Font +/-
d) Date of update on each page
e) Google Custom Search
f) Marathi
g) Site Map

2.23.3 Back-end Features

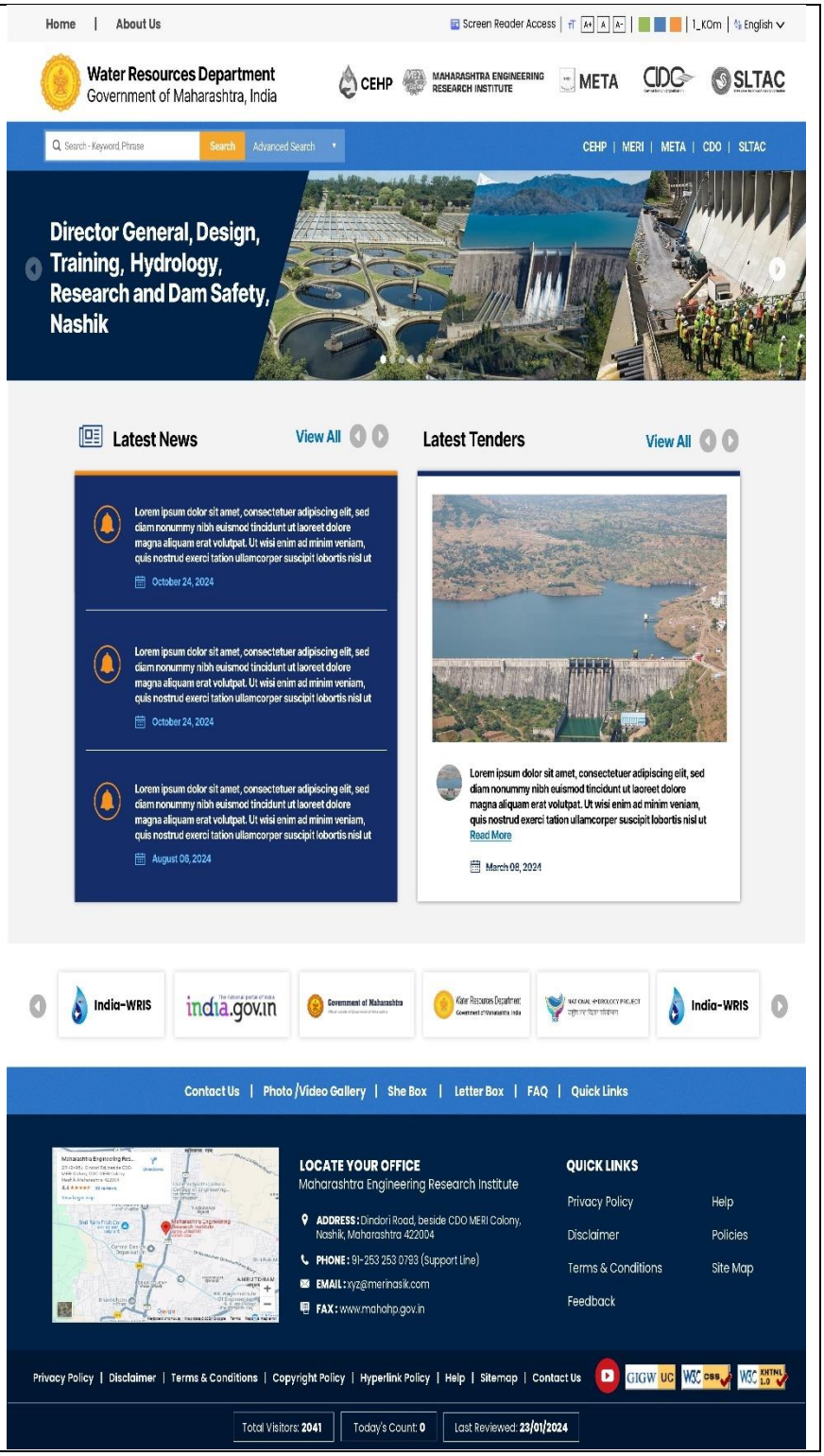
a) Compliance with Government "Guidelines for Indian Government Web sites"
b) Security Auditing from Cert-in empanelled auditor
c) Website Redesigning
d) Home page restructuring
e) Accessible Website Structure
f) Content Management System (CMS) Features
g) Bilingual Management Module Developments
h) Custom Google Search Modules
i) Archives Management Module
   a. This module will help user department in ensuring that the expired content is automatically removed from the main website.
   b. There will be an Auto Archival System available on the Website, which will transfer the expired content in archives section as soon as it reaches expiry date.
   c. Archived Data will be available in each page along with search option.
j) Content Integration
k) data Creation

2.23.4 Requirement ID: (DG-MERI) FR-1

Requirement Name: Home (Menu Navigation)
Requirement Description: This will appear in the Menu Bar located on the Home Page, with a mouse hover effect incorporated into its CSS design.
Stimulus/ Response Sequences: The user will direct to the main page of the website, on once clicking on the menu.
Data Fields/Elements: Not Required

Requirement Name:	Home (Menu Navigation)
Requirement Description:	This will appear in the Menu Bar located on the Home Page
Primary Actor:	The user will direct to the main page of the website
Precondition: Success	

Trigger	The trigger for the Home menu navigation occurs when the website is loaded, and the user interacts with the "Home" menu item.
Main Success Scenario:	
Business Rule:	"Home" menu item remains accessible from any page, the hover effect is consistent with the site's design, and that user feedback mechanisms are in place to monitor usability.

User Screen	

2.23.5 Requirement ID: (DG-MERI) FR-2

Requirement Name: About Us

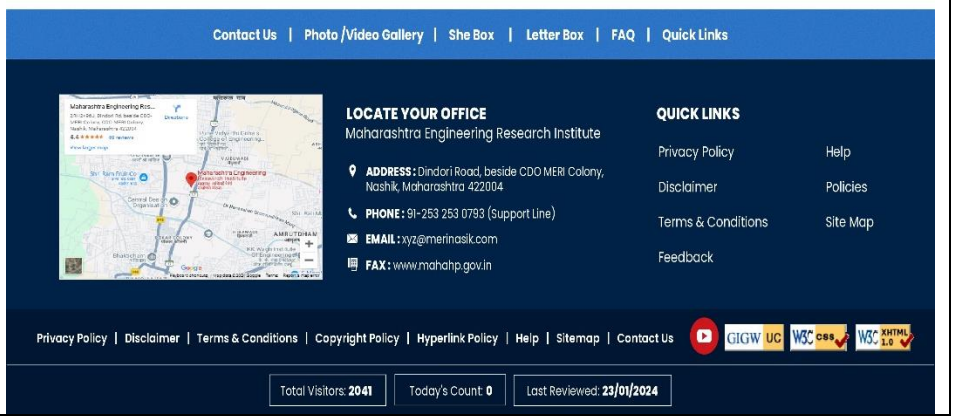
Requirement Description: The "About Us" section must contain comprehensive information about the department and its functional units, ensuring that it is useful for

beneficiaries and stakeholders, with a reliable mechanism for regular updates to maintain accuracy.

Stimulus/ Response Sequences: On moving the cursor over the About Us tab, the following sub-menus will appear on the drop down.

Data Fields/ Elements:

About Us

Requirement Name:	About Us
Requirement Description:	"About Us" section must contain comprehensive information about the department and its functional units, ensuring that it is useful for beneficiaries and stakeholders, with a reliable mechanism for regular updates to maintain accuracy
Primary Actor:	User/Administrator
Trigger	The trigger for the About Us section activation occurs when the webpage is loaded and the user interacts with the "About Us" menu item.
Main Success Scenario:	
Business Module	Business rules require that the "About Us" content is regularly updated, the dropdown functionality is consistent with other menu items, and a feedback mechanism is available for user input.
User screen	

2.23.6 Requirement ID: (DG-MERI) FR-3

Requirement Name: Thumbnail (Sub-Website)

Requirement Description: Thumbnail Presentation Module (Sub-websites) will be implemented across the six affiliated websites within the DG-MERI Portal. This module will enable the display of visually appealing thumbnails for each sub-website, enhancing user navigation and engagement. Each thumbnail will serve as a clickable entry point, leading users to detailed information and resources

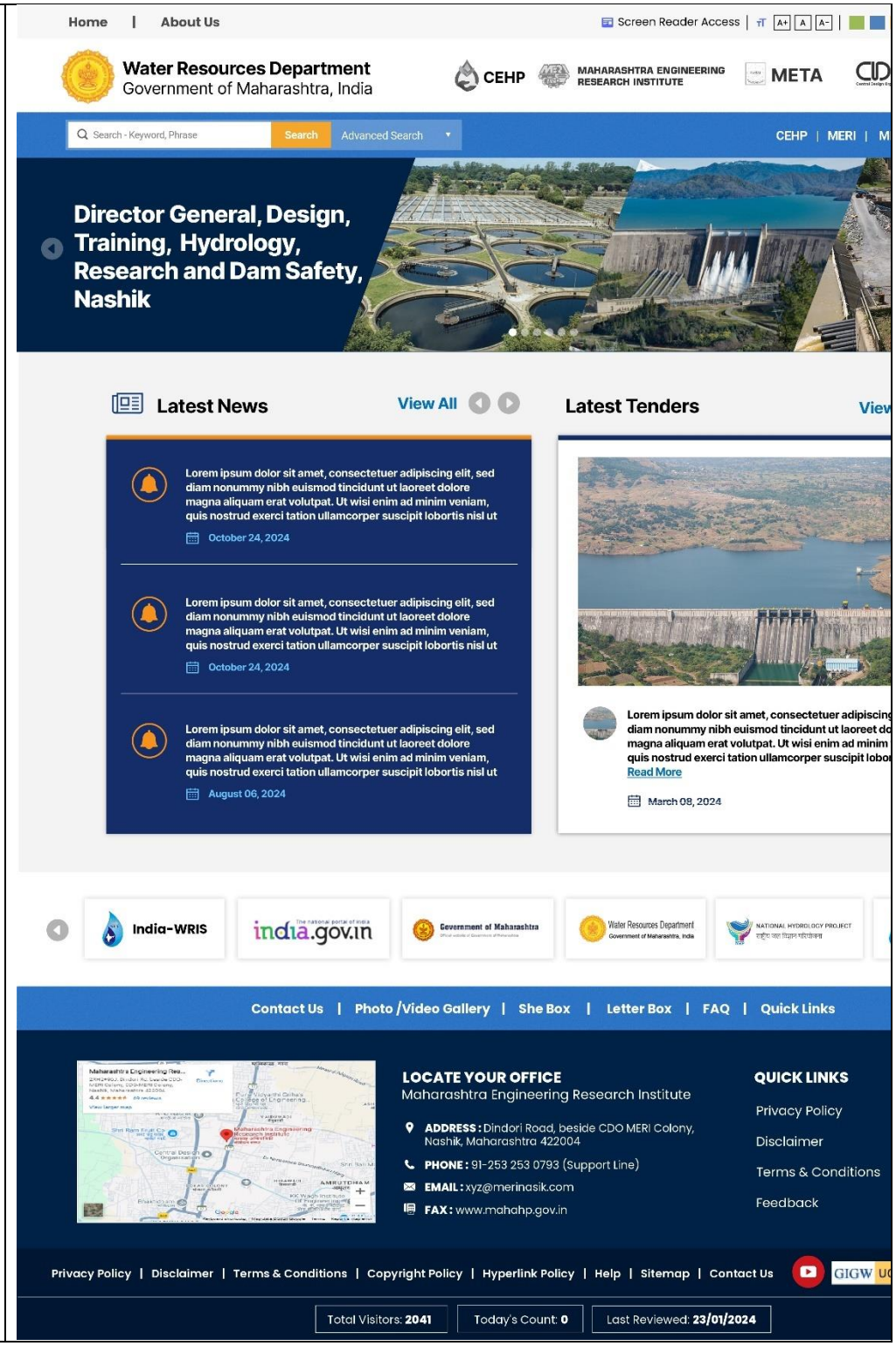
Stimulus/ Response Sequences: On moving the cursor over the tab, the following sub-menus will appear on the drop down.

Data Fields/ Elements:

Institute

- o MERI
- o CDO
- o META
- o SLATC
- o HP
- o KWDT

Requirement Name	Thumbnail (Sub-Website)
Requirement Description	Thumbnail Presentation Module (Sub-websites) will be implemented across the six affiliated websites within the DG-MERI Portal
Primary Actor:	Users
Trigger	The trigger for the Thumbnail Presentation Module activation occurs when the DG-MERI Portal is loaded and the user interacts with the thumbnail tab
Main Success Scenario:	
Business Module	thumbnail content is regularly reviewed for accuracy, the design remains consistent across sub-websites, and a feedback mechanism is established to monitor user engagement.

User Screen	

Home | About Us
Screen Reader Access
Water Resources Department
Government of Maharashtra, India
CEHP
MAHARASHTRA ENGINEERING RESEARCH INSTITUTE
META
Search - Keyword, Phrase
Search
Advanced Search
CEHP | MERI
Director General, Design, Training, Hydrology, Research and Dam Safety, Nashik
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LOCATE YOUR OFFICE
Maharashtra Engineering Research Institute
ADDRESS : Dindori Road, beside CDO MERI Colony, Nashik, Maharashtra 422004
PHONE : 91-253 253 0793 (Support Line)
EMAIL : xyz@merinasik.com
FAX : www.mahahp.gov.in
QUICK LINKS
Privacy Policy
Disclaimer
Terms & Conditions
Feedback
Privacy Policy | Disclaimer | Terms & Conditions | Copyright Policy | Hyperlink Policy | Help | Sitemap | Contact Us
Total Visitors: 2041
Today's Count: 0
Last Reviewed: 23/01/2024

2.23.7 Requirement ID: (DG-MERI) FR-4

Requirement Name: Latest News

• **Requirement Description:** Latest News Information will be provided on the home page of the DG-MERI website. The respective module will show the data related to the Latest News.

o Will allow Administrator to Publish Latest News & Announcements on the website.

o Administrator will be able to View/Add/Edit/Delete News by adding News Titles and Details through WYSIWYG editor.

o News added here will need to be reviewed and approved before getting published on the website.

Requirement Name:	Latest News
Requirement Description:	Latest News Information will be provided on the home page of the DG-MERI website. The respective module will show the data related to the Latest News
Primary Actor:	Administrative will manage all the news
Trigger	The trigger for the Latest News module activation occurs when the Administrator logs into the backend to manage news content or when the homepage is loaded for users
Main Success Scenario:	
Business Module	content is regularly reviewed for relevance, the publication process is followed, and a feedback mechanism is available to gather user input on news relevance and visibility.

User Screen	

2.23.8 Requirement ID: (DG-MERI) FR-5

Requirement Name: Events

• **Requirement Description:** Events Information will be provided on the home page of the DG-MERI website. The respective module will show the data related to the Events. This module will help department in managing details of their upcoming

Events, past events, events catalogue. We will develop this module with the following features:

o Add / Edit / Deactivate Events through secure online control panel.

o Manage Events Details including the following:

▪ Events General Information.
▪ Schedule.
▪ Registration information.
▪ Download documents.
▪ Manage Events details including the following:
• Upload Events Photos.
• Upload Post Events documents.
• Upload Events details.
• Manage Events Archives.

Requirement Name:	Events
Requirement Description	Events Information will be provided on the home page of the DG-MERI website. The respective module will show the data related to the Events. This module will help department in managing details of their upcoming Events, past events, events catalogue.
Primary Actor	Administrative will manage all the Events.
Trigger	Activation occurs when the Administrator logs into the control panel to manage events or when the homepage is loaded for users.
Main Success Scenario:	
Business Module	regularly updated, the management process is secure, and a feedback mechanism is in place for users to provide input on events.

User Screen	

2.23.9 Requirement ID: (DG-MERI) FR-6

Requirement Name: Media Gallery

• **Requirement Description:** Content comes from the Video/Photo management Module. We will develop an advanced Media gallery module to allow website team to

publish best quality photos/videos on the website. Some of the unique features of Media gallery module will be:

o Will allow uploading of Image/Video Name, Image/Video, Image/Video Description for each image/Video.

o Will have facility to view/add/edit/delete Images/Video in JPEG, GIF, PNG and FLV format.

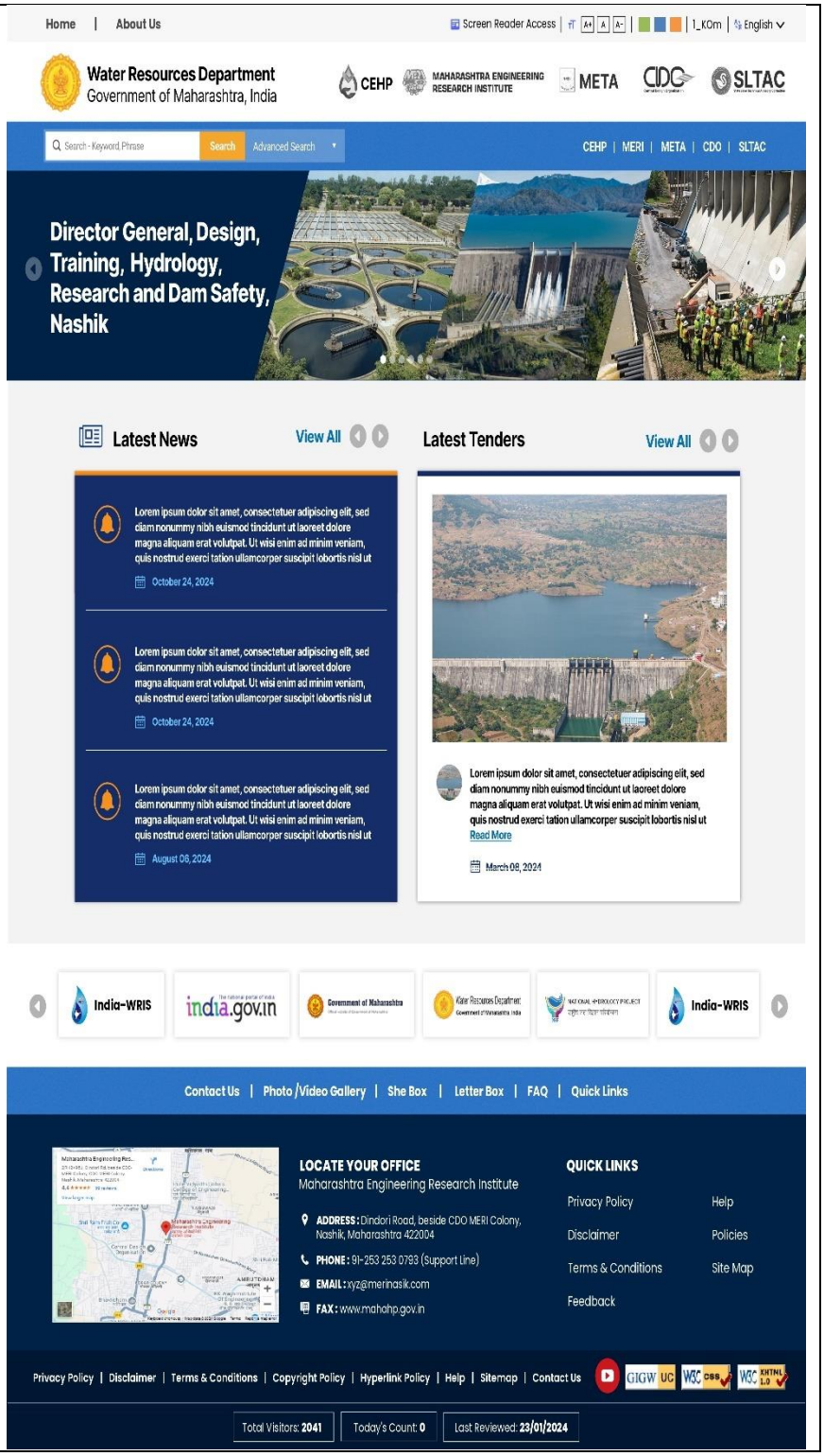
o Will allow review, editing and publishing layers to ensure correctness of the content.

Stimulus/ Response Sequences: The Media Gallery module enables the website team to upload high-quality photos and videos, with features that allow for the entry of image/video names, descriptions, and relevant tags; users can view, add, edit, or delete images and videos in formats such as JPEG, GIF, PNG.

Data Fields/ Elements:

- Image/Video Name (Text Field)
- Image/Video Upload (File Upload)
- Image/Video Description (Text Area)
- DG-MERI Tags (Tag Input)
- Upload Date (Date/Time Field)
- Status (Dropdown: Draft, Review, Published)
- Author (Text Field)

Requirement Name	Media Gallery
Requirement Description	The Media Gallery module enables the website team to upload high-quality photos and videos, with features that allow for the entry of image/video names, descriptions, and relevant tags; users can view, add, edit, or delete images and videos in formats such as JPEG, GIF, PNG.
Primary Actor	Administrator
Trigger	when the website team logs into the system to manage media content or when users access the Media Gallery on the website.
Main Success Scenario:	
Business Rule	all uploaded content is high-quality, regularly reviewed for accuracy, the management process is secure, and a feedback mechanism is available for user input on the media displayed.

User Screen	

2.23.10 Requirement ID: (DG-MERI) FR-8

Requirement Name: Footer Links

• **Requirement Description:** The links that appear at the bottom of every page are referred as Footer Links. These are useful for the providing the useful and miscellaneous link of the website.

Stimulus/ Response Sequences: On a click of the respective footer link, user can view the details.
Data Fields/ Elements: The following modules will necessary be cover under the Archive

- ➢ Total Visit Count
- ➢ Today Visit Count
- ➢ Terms & Conditions
- ➢ Feedback
- ➢ Help
- ➢ Policies
- ➢ Site Map
- ➢ Contact Us
- ➢ Women Sexual harassment Complaint Box.
- ➢ Date of last reviewed
- ➢ Certificate - Compliance of the latest WCAG, W3C, GIGW

Requirement Name:	Footer Links
Requirement Description:	The links that appear at the bottom of every page are referred as Footer Links.
Primary Actor	
Trigger	Footer Links activation occurs when the user accesses the footer area of any page on the website.
Main Success Scenario:	
Business Rule	all footer links are regularly reviewed for accuracy, maintained with current information, and that a mechanism is in place for users to provide feedback on footer content.
User Screen	

2.24 Non-functional Requirement:

Security requirements the software is able to withstand and resist hostile acts and influences. System to be highly secured, considering that it is intended to handle sensitive applications. The overarching security considerations are described below:

• The application and database security should integrate with platform security.

• The solution would provide for maintaining an audit trail of all the transactions.

• The security services for protection of the information infrastructure shall include: Identification, Authentication, Access Control, Administration, Audit and support for industry standard protocols.

• The solution would provide Single-Sign-In Sign- Off features with password encryption using protocols and capability to enforce changing the passwords at system-defined intervals.

• The solution would handle errors due to communication failure, hardware failure, etc. and roll back the changes maintaining the transaction consistency.

• The solution would ensure guaranteed once only delivery, message routing, queuing and load balancing features and optimize both data-level and process level integration. Specific capabilities of such a solution would include, but not be limited to, a robust and secure messaging infrastructure, automated business process integration (both internal and external users), workflow management, and powerful business-to-business transaction capability.

• Security design would provide for a well-designed identity management system, security of physical and digital assets, data and network security, backup and recovery and disaster recovery system.

• System will be audited by a third party at the stage of acceptance testing stage and periodically thereafter, at least once in two years, to ensure that the security systems are intact and that the security policies are strictly being enforced.

1. Performance:
    a) Response time for different operations.
    b) Scalability to handle increasing numbers of users and courses.
2. Security:
    a) User authentication and authorization mechanisms.
    b) Data encryption for sensitive information.
    c) Protection against common security threats (e.g., SQL injection, cross-site scripting).
    d) To factor Security & Authentication.
3. Usability:
    a) Intuitive user interface.
    b) Support for multiple devices.
    c) Accessibility features for users with disabilities.
4. Reliability:
    a) System availability and uptime.
    b) Backup and recovery mechanisms for data protection.

2.24.1 Navigate Structure

S. No.	• Tabs/Links	Module	Menu Location

1.	• Common Features
	  ○ Skip to Main Content
	  ○ Skip to Navigation
	  ○ Screen Reader Access [CMS Page]
	  ○ Accessibility options [Dynamic Page] o Font +/- [Functionality] o Color option [Functionality]
	• Print [Functionality] • Todays Visit Count, Total visit Count, Date of last reviewed [Dynamic Page] • Search within site [Search Website with Google Customized Search] • Site Map • Marathi/English Version of each webpage
		Dynamic + CMS	Common Features

2.	• Home	Dynamic	Main Menu

3.	• About Us
	  • MERI
	  • CDO
	  • META
	  • SLATC
	• • HP
		Content (CMS)	Main Menu

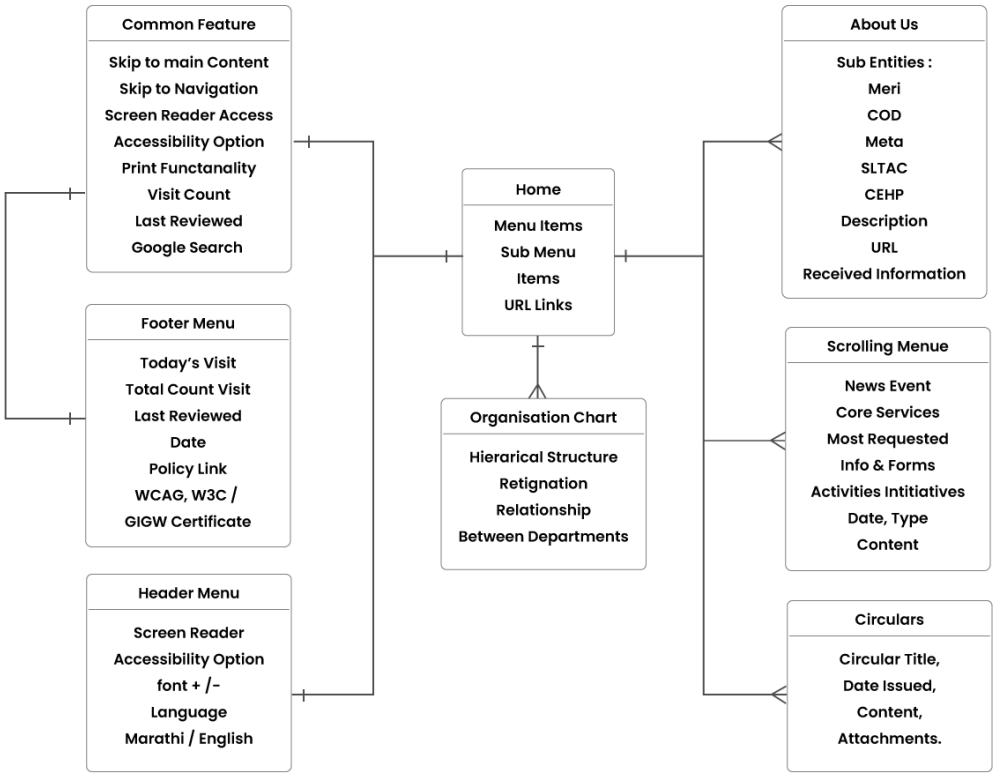
4.	• Organization chart	Content (CMS)	Main Menu
5.	• Circulars	Content (CMS)	Main Menu

6.	• Scrolling menu
	  • News
	  • Event
	  • Core services dept. wise
	  • Most requested info. & Forms
	  • Activities &initiatives.
		Content (CMS)	Main Menu

7.	• Header Menu • Screen reader access • Accessibility option • Font+/- • Google custom search • Marathi/ English • Site map • Social media icon • Login.	Content (CMS)	Main menu
8.	• Footer menu • Today's visit count		

	• Total visit count • Date of last Reviewed • Link to different policy pages • Relevant logos too • Certificate- compliance of the latest- WCAG, W3C, GIGW		

2.25 E-R DIAGRAM for DG-MERI



3 Maharashtra Engineering Research Institute (MERI)

3.1 Introduction

The Maharashtra Engineering Research Institute (MERI), which was set up in 1959, stands as the premier institution in Maharashtra under the auspices of the Water Resources Department. It is responsible for applied research in several areas of civil engineering, including soil mechanics, studies of construction materials, testing, highway and coastal engineering, remote sensing and GIS, seismology, hydraulic modelling, and reservoir sedimentation analysis.

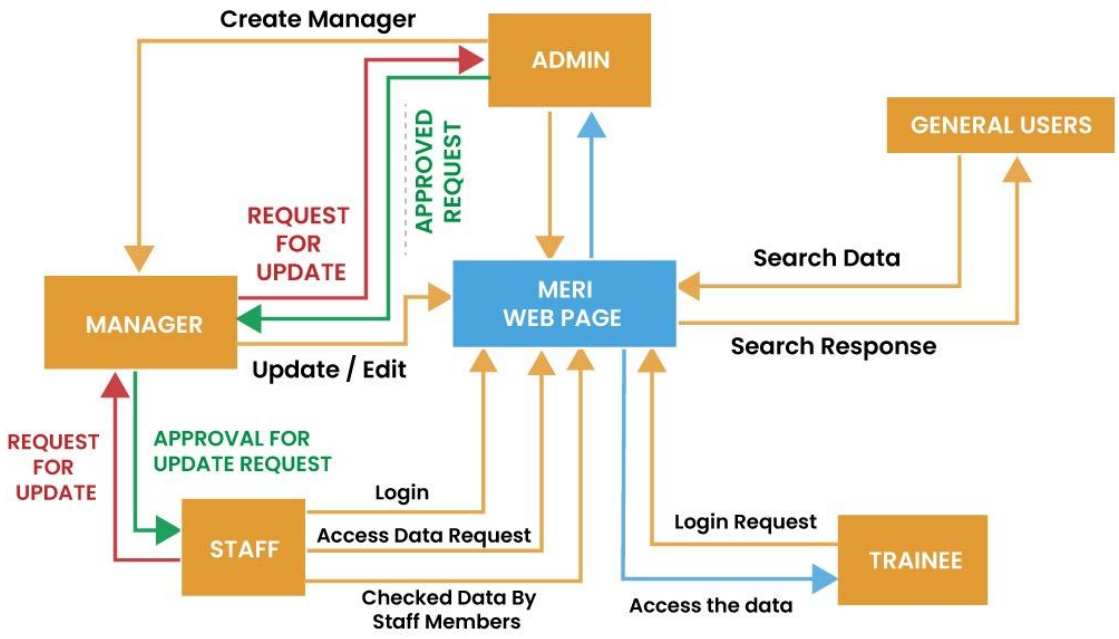
3.2 Business Context

The **Maharashtra Engineering Research Institute (MERI)** was established in the year 1959. It is the prime institute of Maharashtra state under Water Resources Department. It is entrusted with the work of applied research in various disciplines of civil engineering like soil mechanics, construction material studies, testing, highway, coastal, remote sensing & GIS, seismology, hydraulic model studies, reservoir sedimentation studies etc.

It is largely dealing with field problems of applied research pertaining to various projects. Being the state research institute, its jurisdiction is spread over the entire Maharashtra state covering the water resources and public works Department while undertaking research studies, their application in the field are concerned. In addition to self-sponsored research and works referred by the field officers, the institute tackles research problem sponsored by the central government through the Central Board of Irrigation and Power (CBIP), Ministry of water resources (MoWR) and Ministry of Surface transport (MOST), Indian National Committee on hydraulic research (INCH), Department of Science & technology (DST) etc. In addition to this, testing of all construction material, soils and water quality etc. is also done by the institute. The institute also works as a nodal agency for earthquake monitoring for Maharashtra State. The institute also undertakes consultancy works for other states, other departments of GoM, Local bodies and private agencies.

3.3 Application Architecture

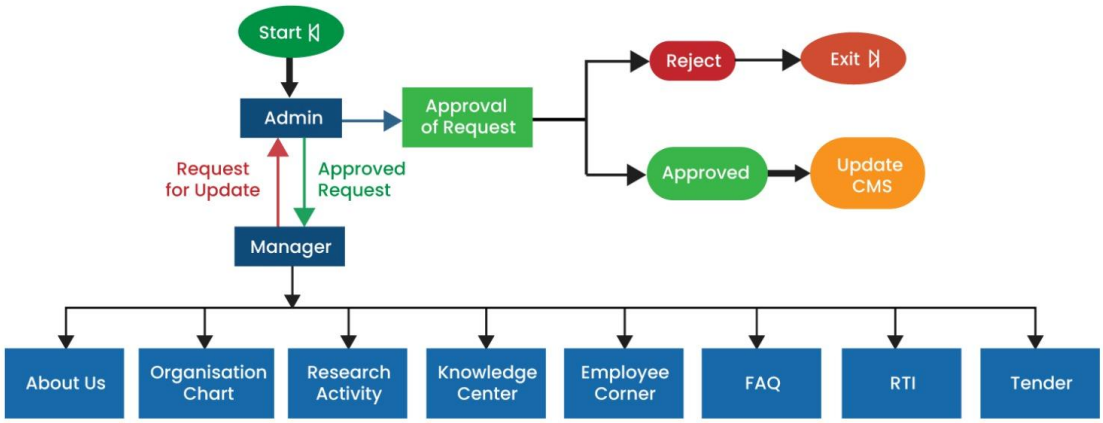
Overall Flow Of MERI :



3.4 Business Process Flow

This high-level explanation provides clarity on the roles, data flow, and processes involved in the system, which can then be broken down further into more detailed diagrams or business processes based on your software requirements

Business Flow of Meri



3.5 Key Stakeholders and Roles:

- **Admins, Staff, and General Users** are the primary stakeholders in the system.
- Define each role's permissions and what actions they can perform in the system.
  - **Admin**: Manages specific operations like adding, editing, and deleting data.
  - **Staff**: Performs data checks, adds, and updates records.
  - **General Users**: Access the system to search and view updated data

3.6 The Core Components:

- **DG MERI Web Application** is the central system where all interactions happen. It connects users and roles to the data they need.
- **Database**: Stores all the critical data which is updated, retrieved, and processed by different user roles.

3.7 The Business Processes:

- **Admin Operations**:
  - Admins add, edit, or delete data, which is then updated in the web application and made available for General Users.
  - They receive updated data from the system.
- **Staff Operations**:
  - The Staff logs in to check, add, or update data as necessary.
  - The checked data is accessed and updated in the system, ensuring that the General Users get the most accurate information.
- **General User Operations**:

- General users search for data in the system and retrieve the necessary information.
- They receive responses based on their requests from the database.

3.8 Data Flow Explanation:

- The system "**MERI Web Application"**, where:
  - **Admins**: Update/Delete data → System updates the database and reflects changes.
  - **Staff**: Accesses and updates the checked data → These updates are reflected in reports or data accessible by other staff and users.
  - **General Users**: Search for and receive the required data from the system.
  - **Manager:** will be able to edit/ update and change the content of the site meri after approval of admin and super admin.
- All interactions are logged in the **database**, ensuring the system can respond with accurate data to user requests.

3.9 Login and Security:

- Each user role logs in based on their role to ensure secure access and appropriate permissions for data access and updates.

3.10 Reporting & Maintenance:

- Reports are generated based on the activities of Admins and Staff and can be accessed by the Super Admin.
- Data updates happen continuously as users interact with the system, keeping the entire database up-to-date.

3.11 Stakeholder's suggestion

This document is primarily intended for MERI Officials, & the user. to understand the functionality of department. The various audience targeted in the document are – MERI Official users, developers, designers, testers, business development team and project managers.

3.12 Overall Description:

The system is designed as a **website application** that serves as a platform for disseminating information to the general public. The content of the website will be managed through an **open-source Content Management System (CMS)**, enabling administrators to efficiently control and update information.

3.13 Product Functions

The primary function of this product is to act as a **website application** with specific capabilities defined by the following parameters:

- **Content Management**: The system allows for easy management and updates of website content.
- **Compliance with GIGW Guidelines**: The website will include features that align with **Guidelines for Indian Government Websites (GIGW)** standards.

3.14 Content Management System (CMS)

The CMS module will empower administrators to make changes to the website content seamlessly. Its core features include:

1. **Dynamic Menus**:
   - The CMS allows the creation of menus and submenus dynamically based on the page tree structure. New menus can be easily added as required.
2. **Content Management**:
   - Administrators can manage various content types, such as text, images, and documents, using the CMS.
3. **Bi-Language Support**:
   - The system supports content management in **both English and Marathi** from a unified control panel, allowing administrators to add content in both languages from the same interface.
4. **Audit Trail**:
   - Administrators can view and track changes made to the database, with access to a global log or individual logs for each page.
5. **User Privileges**:
   - Admins can assign control and access rights to specific modules based on user roles and requirements.
6. **Metadata Insertion**:
   - Metadata can be inserted for each page or applied globally for different languages, enhancing SEO and content organization.
7. **Search Engine Friendly URLs**:
   - The system will utilize URL rewriting to generate clean and relevant URLs, making the site more **search engine friendly (SEF)** and improving usability.
8. **Rich Text Editor**:
   - The CMS features a **Rich Text Editor (RTE)** with Microsoft Word-like functionalities, supporting multiple platforms such as Mac/Safari and Mozilla Firefox. Editors can be customized with buttons and CSS styles.
9. **CSS Styled Content**:
   - Core functionalities and extensions of the website can be styled using **CSS**, ensuring a consistent look and feel.
10. **Online Administration**:
    - All administration tasks will be performed online via a **web browser**, enabling easy management from any location.
11. **Minimal Training Required**:

    Editing content will be intuitive and user-friendly, similar to editing in Microsoft Word. As editors add pages, **menu links** will be automatically generated. The

system also includes wizards to assist users with content creation, reducing the learning curve

3.15 Hierarchical Architecture

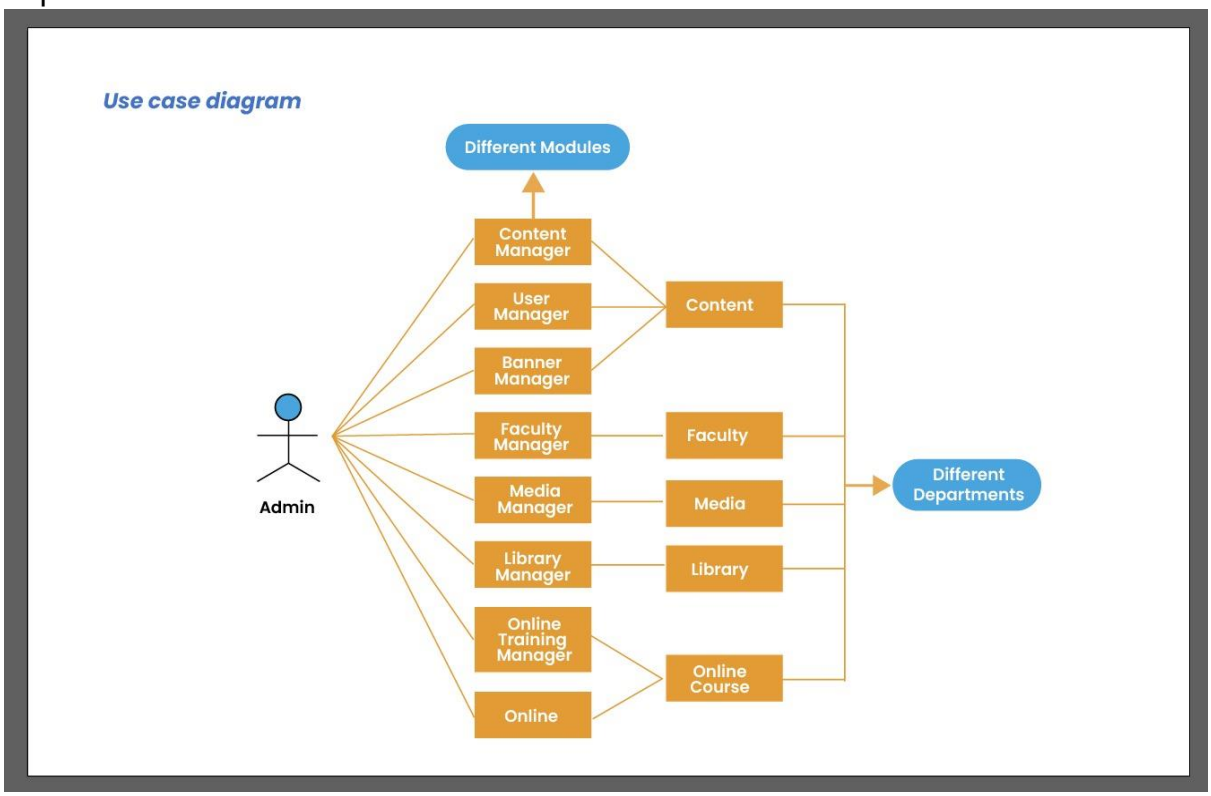
Use Cases

The proposed flow has been given for general public for visiting the website for viewing general information present on the website and the Administration part for maintaining the website.

The general visitor would be able to view the content of the website, search the website content, View the images and will have accessibility options. It can be shown through below Use Case Diagram:

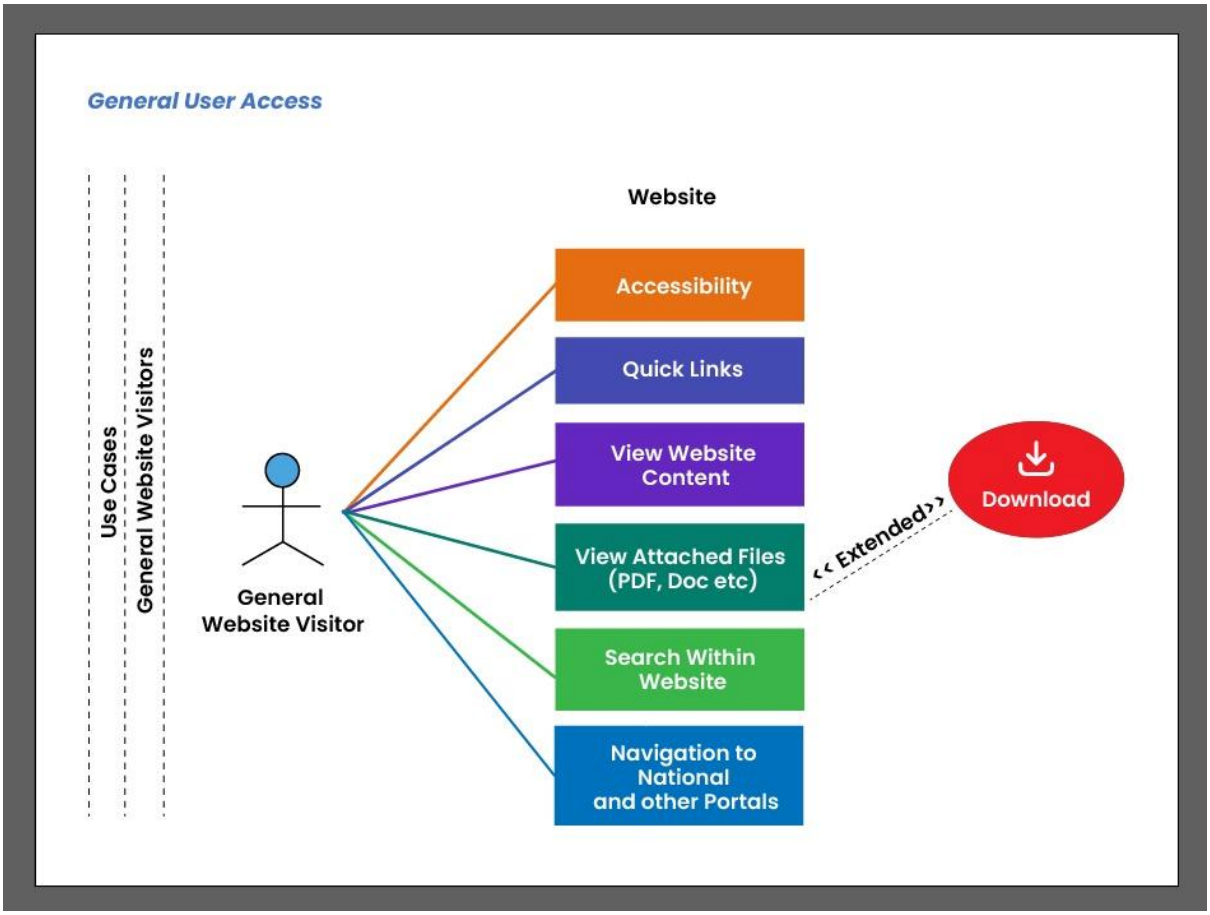
Use case for Admin:

The Proposed Flow has been given for Admin for handling website ‘s contents and administrative part for maintaining the website’s content of relevant departments .



Use case for General users :

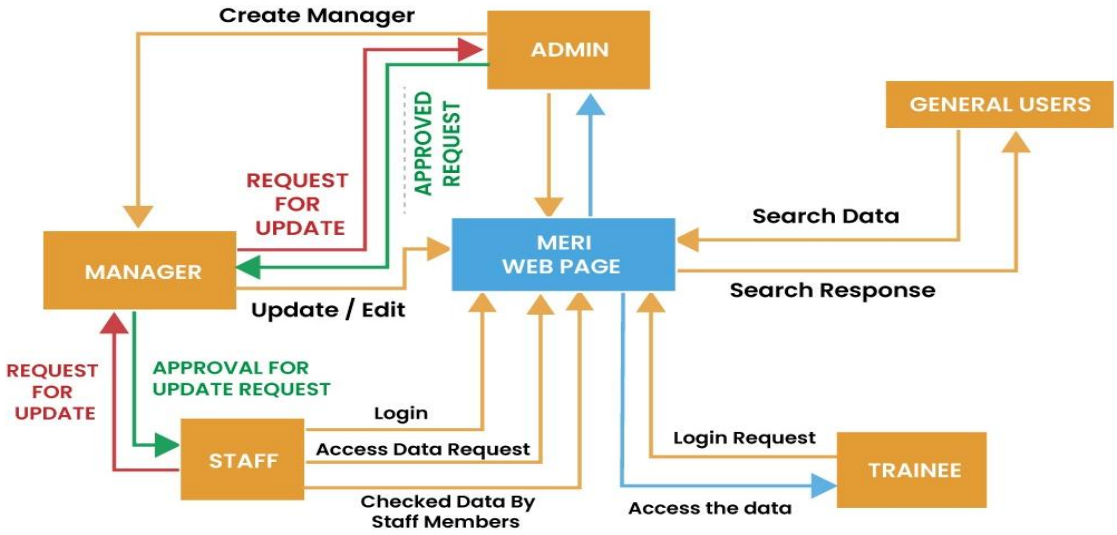
The Proposed Flow has been given for General Users who will able to see the web contents and access the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.

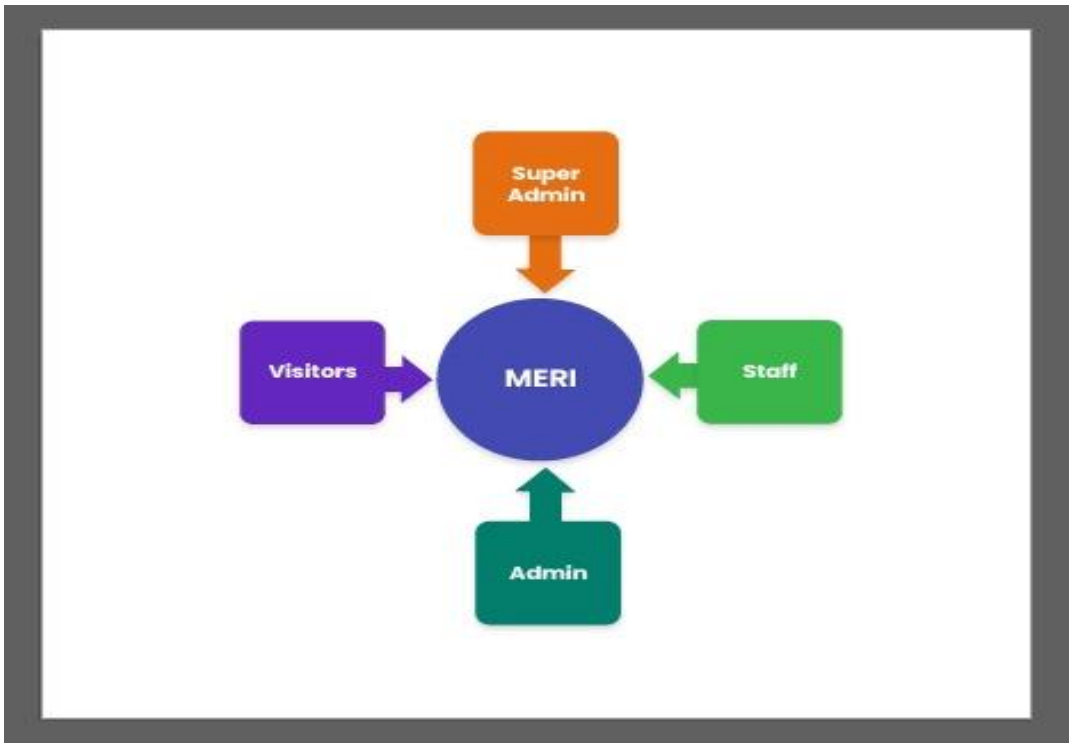


3.16 Flow Diagrams

3.16.1 Context Diagram

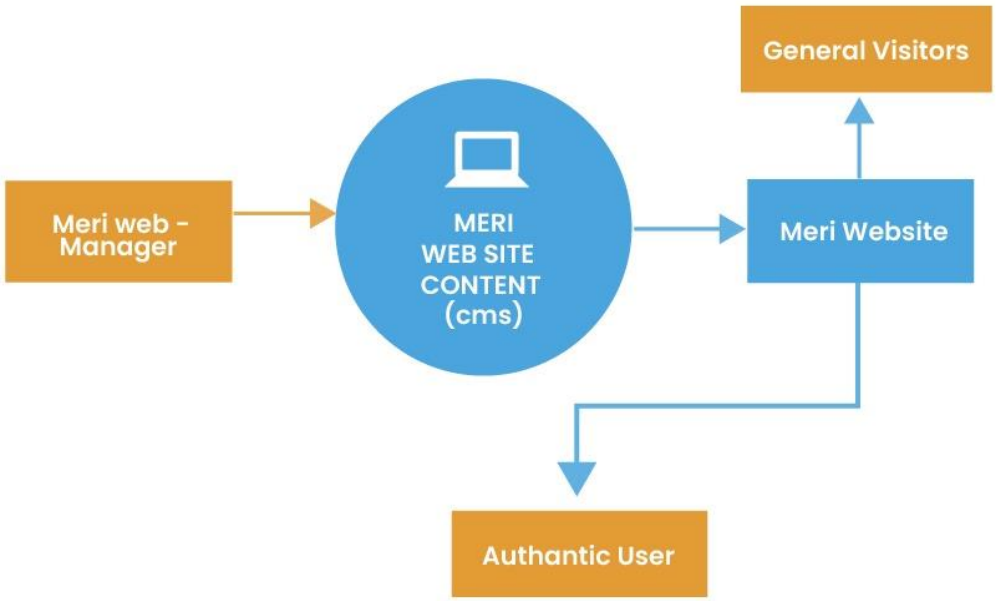
Flow Diagram Of MERI


Create Manager
ADMIN
GENERAL USERS
APPROVED REQUEST
REQUEST FOR UPDATE
Search Data
MERI WEB PAGE
MANAGER
Search Response
Update / Edit
REQUEST FOR UPDATE
APPROVAL FOR UPDATE REQUEST
Login
STAFF
Access Data Request
Login Request
TRAINEE
Checked Data By Staff Members
Access the data


Super Admin
Visitors
MERI
Staff
Admin

DFD – Level 1

Data Flow Diagram 1:

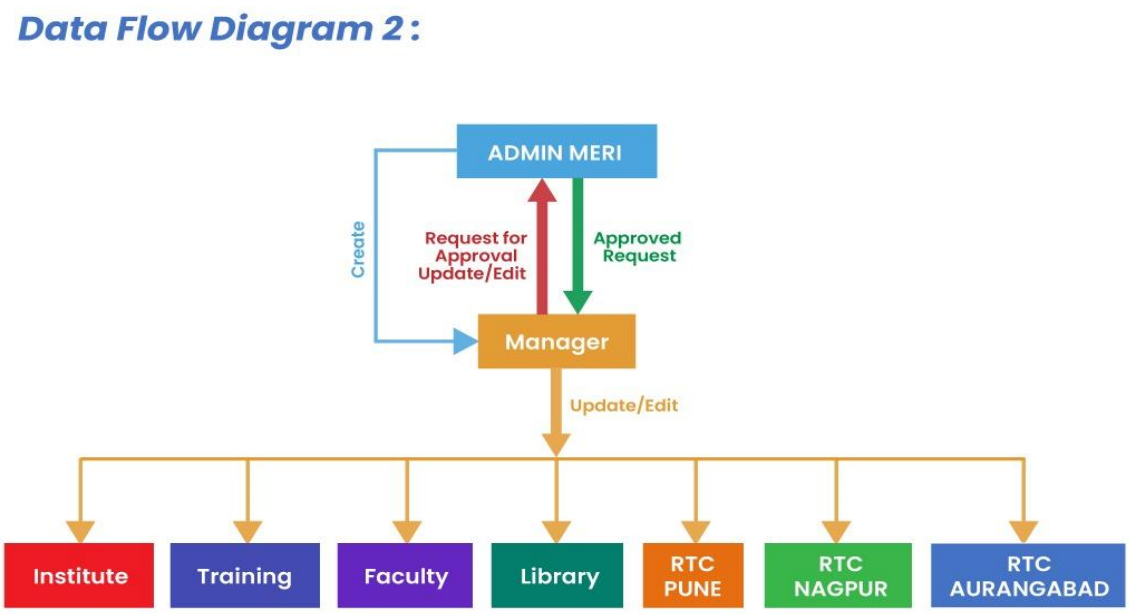


This DFD represents the interaction between the **Meri Website Content (CMS)**, different user roles, and the website itself. The key components are:

1. MeriwebManager:
   This entity represents the person or system responsible for managing and updating the content of the website. The content created by the manager is fed into the **Meri Website Content (CMS)**.
2. MeriWebsiteContent(CMS):
   This central component stores and manages all the website's content. The CMS is the core of the system where the content is controlled and distributed to the **Meri Website** and various user roles.
3. MeriWebsite:
   The website itself retrieves content from the CMS and presents it to different types of users. This represents the public-facing platform where all the stakeholders access information.
4. **UserRoles:**
   The system distributes specific content from the CMS to various user groups:
   - **Trainee**
   - **Admin User**
   - **General Visitors**
   - **Employee**
   - **Staff Members**

   Each role may have different levels of access or interaction with the content available on the **Meri Website**. The arrows indicate the flow of data, from content creation (Manager), through the CMS, to the different types of users.

DFD – Level 2



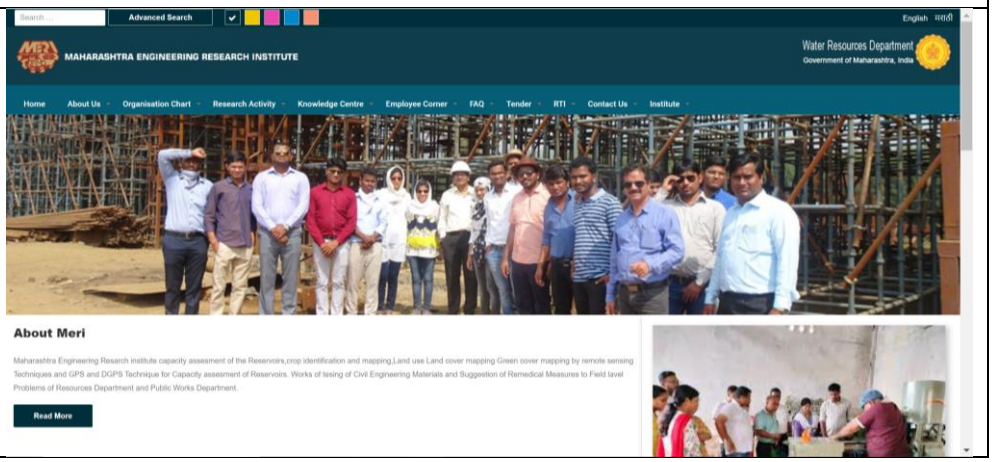
3.17 Functional Requirements

Detailed Requirement

3.18 Requirement ID: FR-1(MERI)

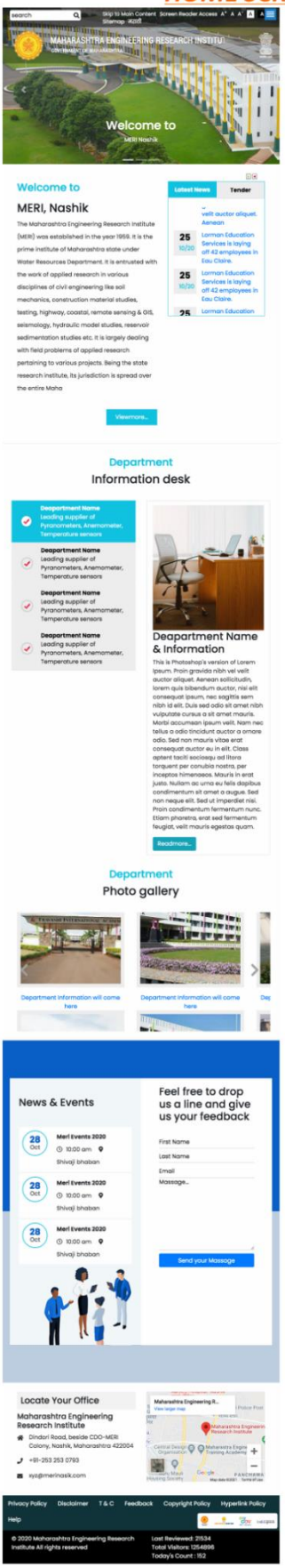
Requirement Name: Home (Menu Navigation)
Requirement Description: This would be provided under the Menu Bar of the Home Page. The Mouse hover effect is given to its CSS Style.
User Screen:
HOME SCREEN – Desktop View

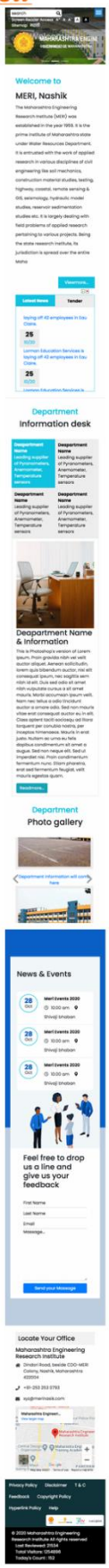
Requirement Name:	Home(navigation)
Requirement Description:	The "Home" menu item will be featured in the menu bar on the homepage

Context of Use:	This requirement and functional design specification identifies the steps required to view "Home" menu navigation provides users with easy access to the homepage.
Primary Actor:	User, Administrator
Pre-Condition	It will include sections for Upcoming Events, Statistics, a subscription feature for the News, along with details about the MERI. This module will ensure that content is regularly updated and easily accessible to users.
Main Success Scenario	Screen Containing following Functionality.
Business Rule:	The "Home" menu will display the main page of website.
User Screen	

HOME SCREEN – Mobile View

HOME SCREEN – Tablet & Mobile View





Stimulus/ Response Sequences: The user will direct to the main page of the website, on once clicking on the menu. Data Fields/Elements: Not Required

3.19 Requirement ID -2 (Meri)

Requirement Name: About Us

Requirement Description: The "About Us" section must contain comprehensive information about the department and its functional units, ensuring that it is useful for beneficiaries and stakeholders, with a reliable mechanism for regular updates to maintain accuracy.

Stimulus/ Response Sequences: On moving the cursor over the About Us tab, the following sub-menus will appear on the drop down.

Data Fields/ Elements:

About Us

3.19.1 *Material testing referral lab:*

- Name, designation, Qualification, date of birth, languages known, phone no, work experience of office in charge including photo.
- List of personnel working in division
- Test to be carried out o Activities
- Technical committee details
- Special work
- Photo gallery

3.19.2 Soil mechanics referral lab:

- Name, designation, Qualification, date of birth, languages known, phone no, work experience of office in charge
- List of personnel working in division
- Test to be carried out
- Activities
- technical committee details
- Special work
- Photo gallery

3.19.3 Resource Engineering Centre:

- Name, designation, Qualification, date of birth, languages known, phone no, work experience of office in-charge
- List of personnel working in division
- Work done by o Methodology o Completed project
- Completed research paper
- Training o Knowledge transfer programmed
- Special achievement
- Photo gallery

3.19.4 Highway research division

- Name, designation, Qualification, date of birth, languages known, phone no, work experience of office in-charge
- List of personnel working in division
- Activities

- Completed project
- Ongoing project
- Research papers year wise details

3.19.5 Civil Works maintained division:

- Name, designation, Qualification, date of birth, languages known, phone no, work experience of office in-charge
- Organization structure
- List of personnel working in division
- Activities
- Completed project
- Ongoing project
- Research papers year wise details

3.19.6 General administration:

- Name, designation, Qualification, date of birth, languages known, phone no, work experience of office in charge
- List of personnel working in division
- Activities

3.19.7 State specific Action plan (SSAP):

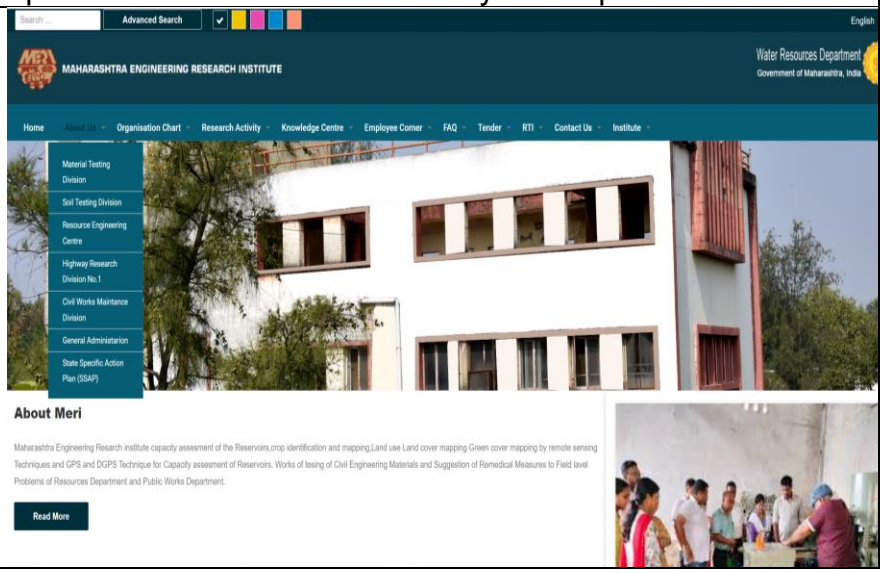
- Name, designation, Qualification, date of birth, languages known, phone no, work experience of office in charge
- List of personnel working in division
- Activities

Stimulus/ Response Sequences: On moving the cursor over the About Us tab, the following sub-menus will appear on the drop down.

Data Fields/ Elements:

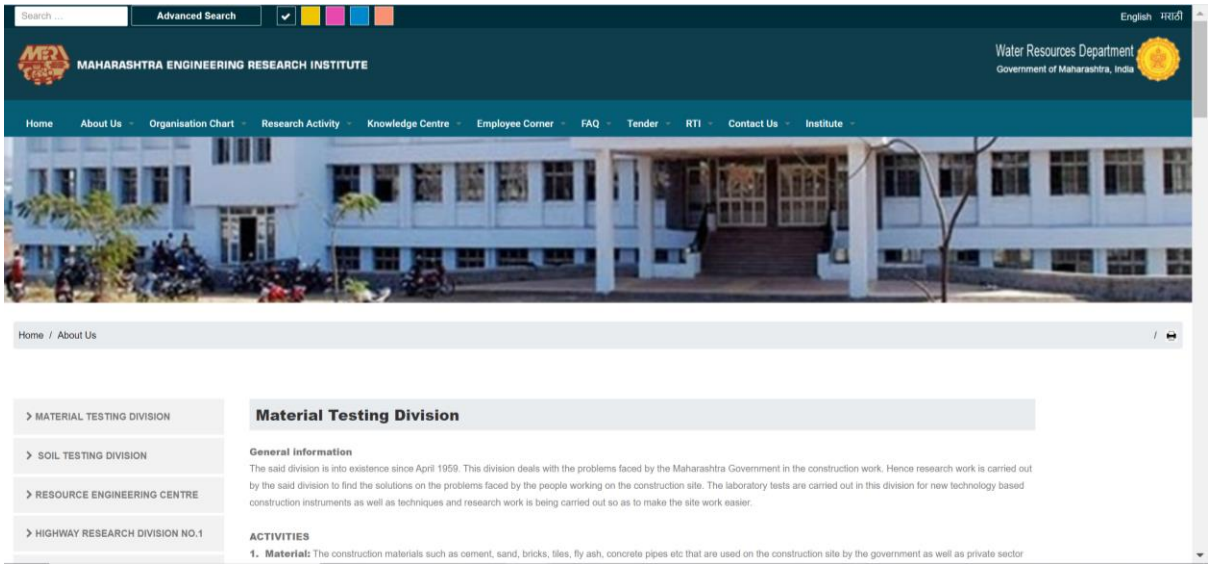
About Us

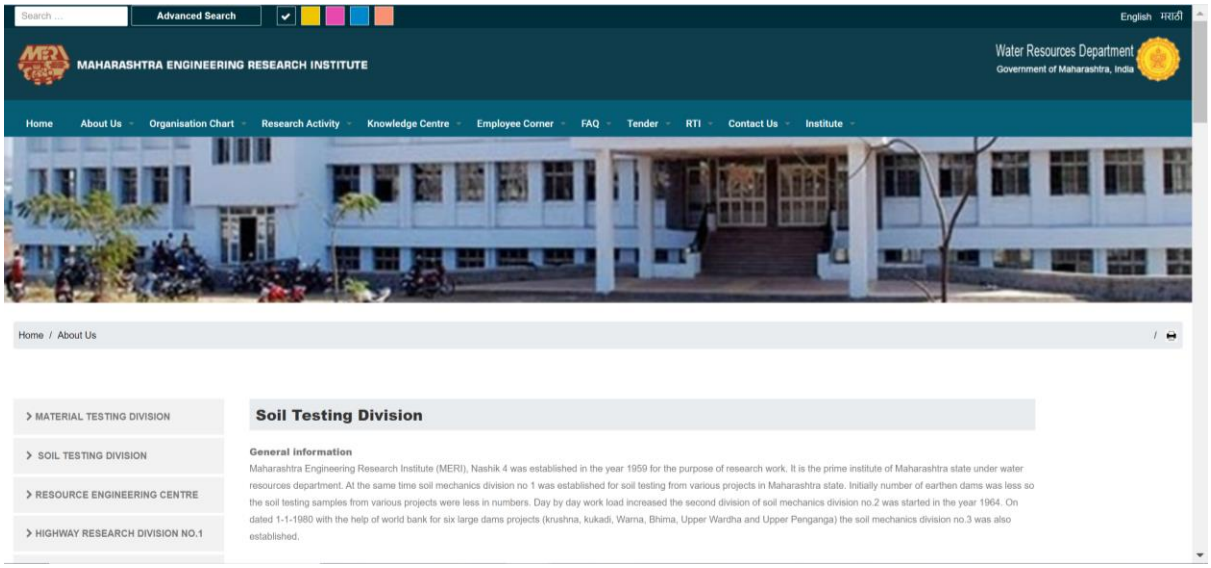
Requirement Name	About Us
Requirement Description	This will help the department to give the brief introduction about The Maharashtra Engineering Research Institute (MERI).
Context of Use:	This requirement and functional design specification identifies the steps required to view "Home" menu navigation provides users with easy access to the homepage
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator.
Pre-Condition	It will include sections for Events, Statistics, a subscription feature for the Program, and News, along with details Project. This module will ensure that content is regularly updated and easily accessible to users.

Main Success Scenario	Screen Containing following Functionality. • material testing referral lab • soil mechanics referral lab • Resource Engineering centre • highway research division • Civil Works maintance division • General administration • State specific Action plan (SSAP)
Trigger	About Us section activation occurs when the webpage is loaded, and the user interacts with the "About Us" menu item
Business Rule:	For the above functionality reports/documents regularly updated in the form of PDF/text by the Department.
User Screen	

3.20 ABOUT MERI SCREEN

User Screen:

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Government of Maharashtra, India
Home
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Organisation Chart
Research Activity
Knowledge Centre
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FAQ
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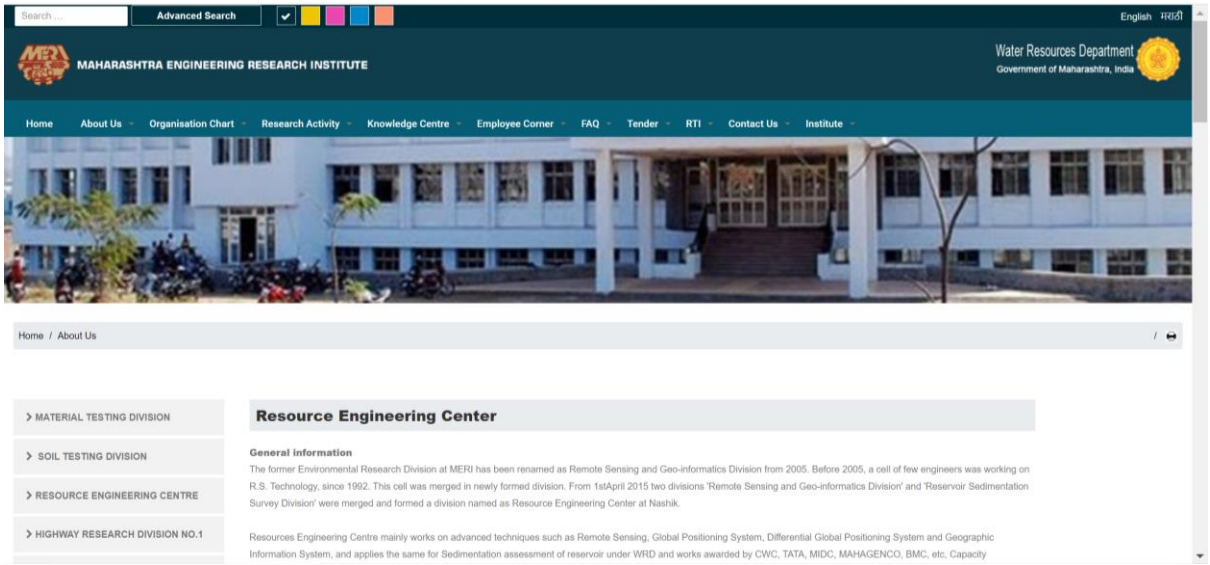
RTI
Contact Us
Institute
Home / About Us
MATERIAL TESTING DIVISION
SOIL TESTING DIVISION
RESOURCE ENGINEERING CENTRE
HIGHWAY RESEARCH DIVISION NO.1
Soil Testing Division
General information
Maharashtra Engineering Research Institute (MERI), Nashik 4 was established in the year 1959 for the purpose of research work. It is the prime institute of Maharashtra state under water resources department. At the same time soil mechanics division no 1 was established for soil testing from various projects in Maharashtra state. Initially number of earthen dams was less so the soil testing samples from various projects were less in numbers. Day by day work load increased the second division of soil mechanics division no.2 was started in the year 1964. On dated 1-1-1980 with the help of world bank for six large dams projects (krushna, kukadi, Warna, Bhima, Upper Wardha and Upper Penganga) the soil mechanics division no.3 was also established.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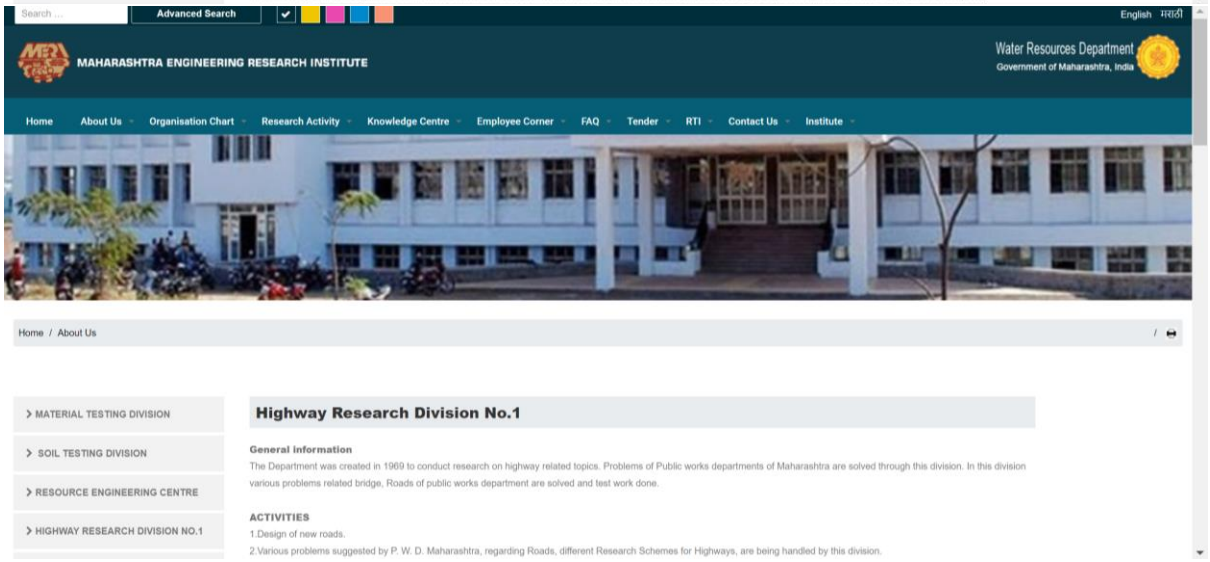
MATERIAL TESTING DIVISION
SOIL TESTING DIVISION
RESOURCE ENGINEERING CENTRE
HIGHWAY RESEARCH DIVISION NO.1
Resource Engineering Center
General information
The former Environmental Research Division at MERI has been renamed as Remote Sensing and Geo-informatics Division from 2005. Before 2005, a cell of few engineers was working on R.S. Technology, since 1992. This cell was merged in newly formed division. From 1stApril 2015 two divisions 'Remote Sensing and Geo-informatics Division' and 'Reservoir Sedimentation Survey Division' were merged and formed a division named as Resource Engineering Center at Nashik.
Resources Engineering Centre mainly works on advanced techniques such as Remote Sensing, Global Positioning System, Differential Global Positioning System and Geographic Information System, and applies the same for Sedimentation assessment of reservoir under WRD and works awarded by CWC, TATA, MIDC, MAHAGENCO, BMC, etc. Capacity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Institute
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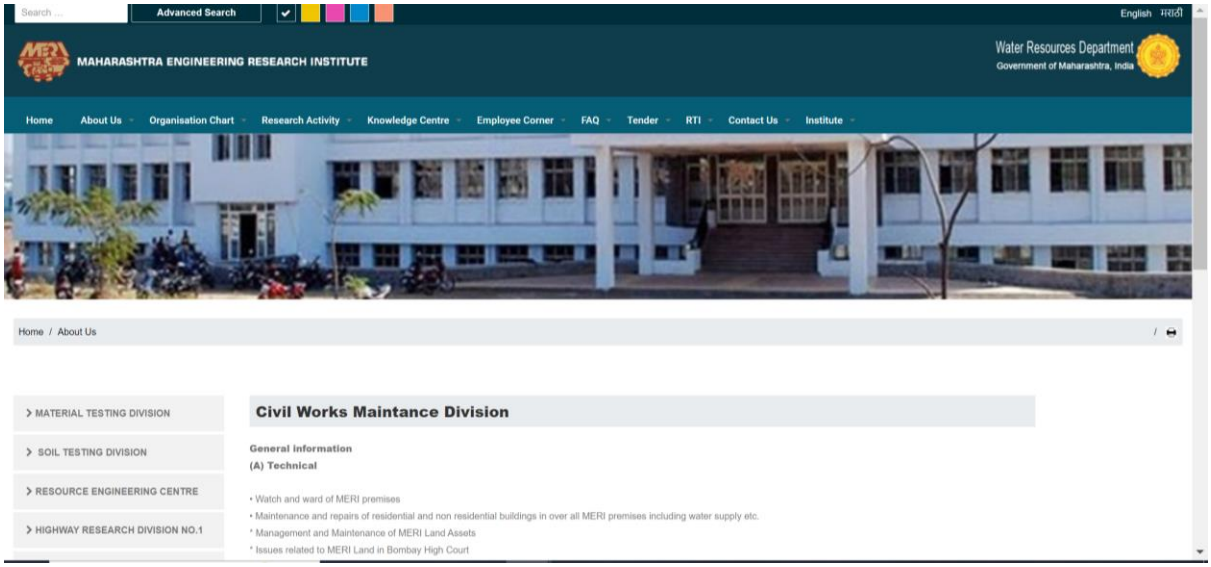
MATERIAL TESTING DIVISION
SOIL TESTING DIVISION
RESOURCE ENGINEERING CENTRE
HIGHWAY RESEARCH DIVISION NO.1
Highway Research Division No.1
General information
The Department was created in 1969 to conduct research on highway related topics. Problems of Public works departments of Maharashtra are solved through this division. In this division various problems related bridge, Roads of public works department are solved and test work done.
ACTIVITIES
1.Design of new roads.
2.Various problems suggested by P. W. D. Maharashtra, regarding Roads, different Research Schemes for Highways, are being handled by this division.

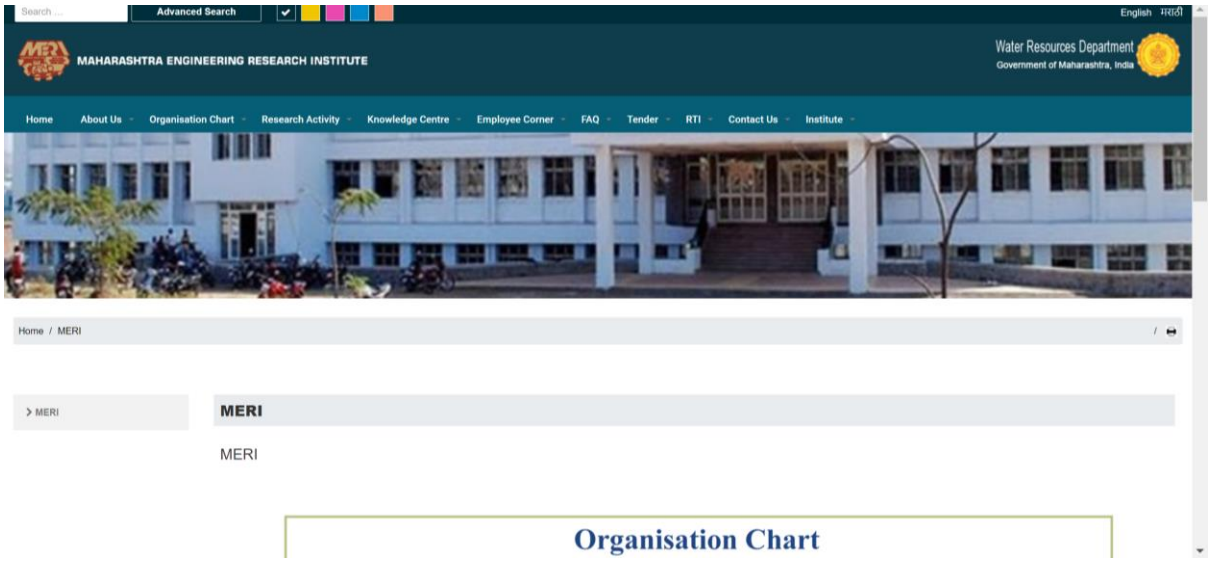


3.21 Requirement ID: FR-3(MERI)

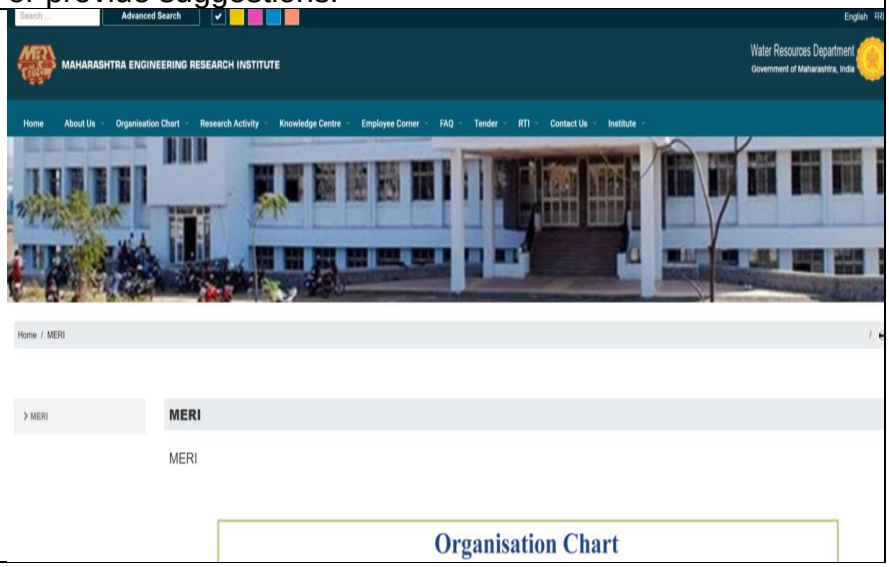
Requirement Name: Organisation Chart

Requirement Description: The menu for Organisation Chart would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the Organisation Chart in The Maharashtra Engineering Research Institute (MERI). This will be a content-based CMS page managed by the Site Administrator.

User Screen:



Data Fields/ Elements: The categories under Organisation Chart will be managed through CMS i.e. Content Management System. 1) Organisation Chart

Requirement Name	Organisation Chart
Requirement Description	This will help the department to give the Organisation Chart in The Maharashtra Engineering Research Institute (MERI)
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator.
Trigger	Organisation Chart activation occurs when the user navigates to the homepage and interacts with the Organisation Chart menu item
Main Success Scenario	Screen Containing following Functionality. • Organisation chart
Business Context	Organisation Chart is regularly updated, the hover effect is consistent with the website's design, and a feedback mechanism is in place for users to report any discrepancies or provide suggestions.
User Screen	

3.21.1 Requirement ID: (MERI)FR-4

Requirement Name: Research Activity

Requirement Description: A Research Activity option will be available in the main Menu Bar of the Home Page. This tab will present data concerning the Research Activities conducted by MERI. It aims to support the Department in publishing details of its completed and ongoing research initiatives on the website. The module will offer the following features**:**

1. Manage Research Activity through secure online control panel.
2. Add/Edit/Delete Research Activity on the website.

3. Define completed and ongoing Research Activity for automatic transfer into the completed and ongoing Research Activity after specified period.

4. Define appropriate Meta tags for each Research Activity for listing in search engine.

5. Preview and Publish Research Activity on the website.

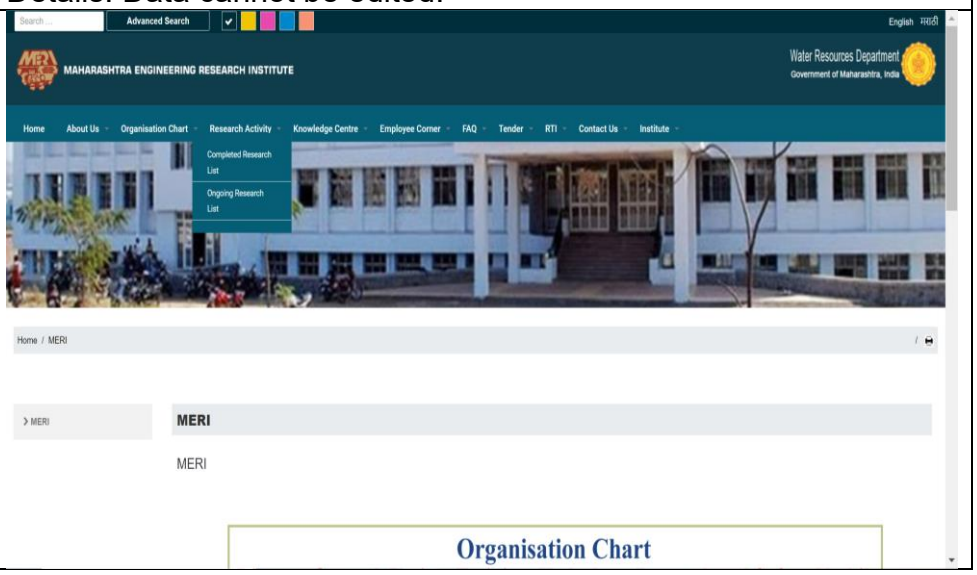
6. User can search information about the Research Activity.

Data Fields/ Elements: The categories under Research Activity will be managed through Research Activity Module.

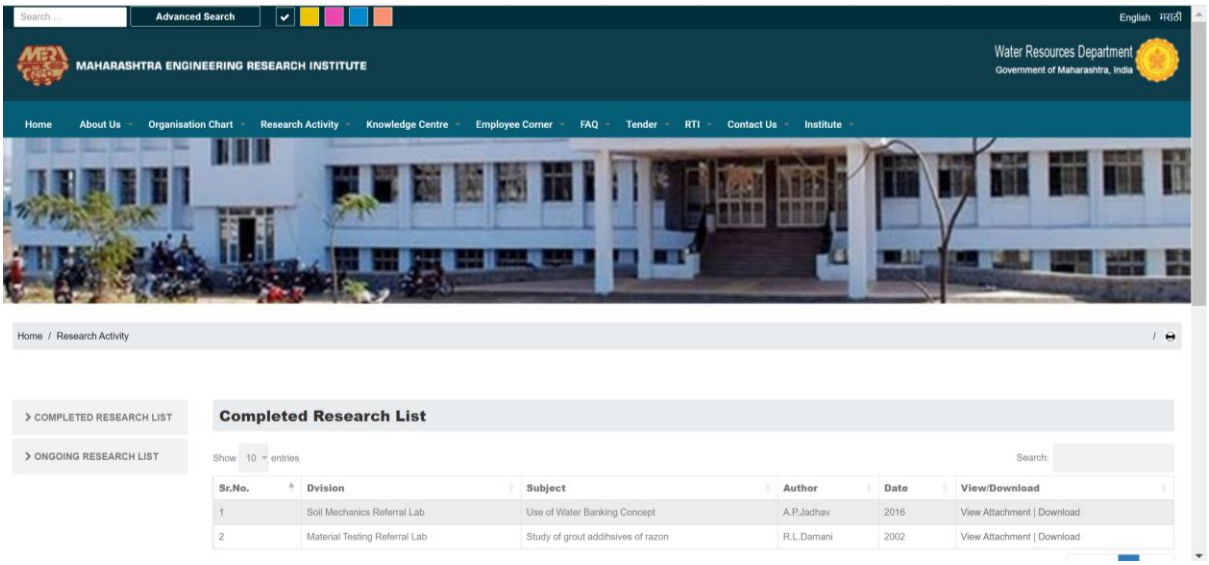
Research Activity

Completed Research

Data Fields/ Elements: The categories under Circulars will be managed through Circulars Module.

Requirement Name:	Research Activity
Requirement Description	This tab will present data concerning the Research Activities conducted by MERI
Primary Actor:	Website User and Administrative
Main Success Scenario	Screen Containing following Functionality. • completed research • ongoing research
Trigger	activation occurs when the administrator logs into the control panel to manage research activities or when users access the Research Activity section on the website.
Business Rule:	Administrator has privileges to Add & Update research activity Details. Data cannot be edited.
User screen:	

User Screen for Research Activity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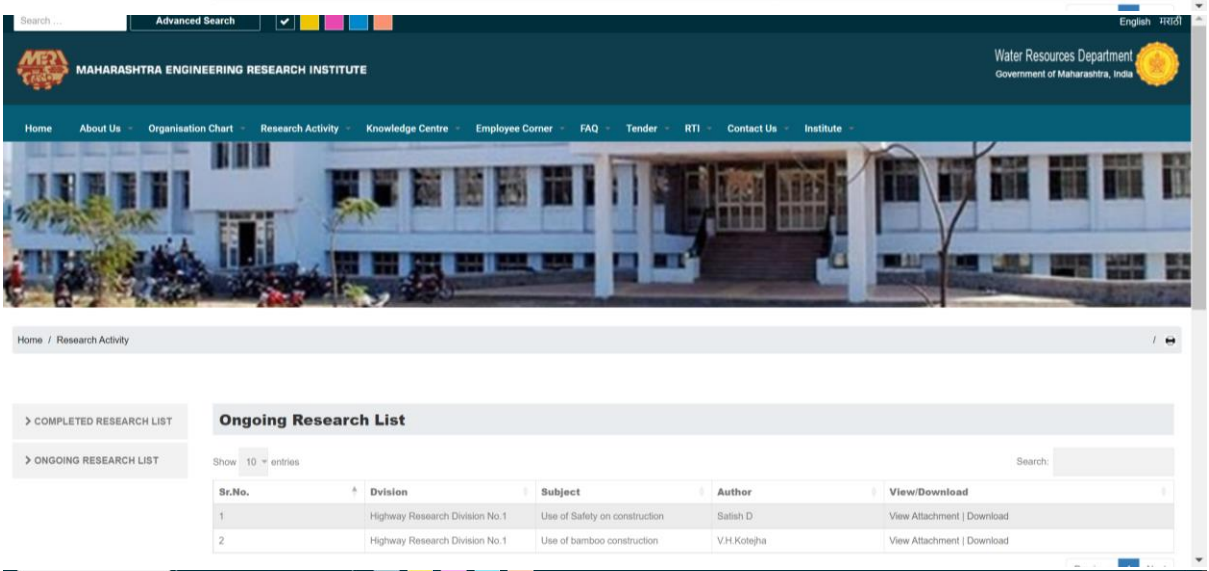
ONGOING RESEARCH LIST
Completed Research List
Show 10 entries
Search:
Sr.No. | Dvision | Subject | Author | Date | View/Download
1 | Soil Mechanics Referral Lab | Use of Water Banking Concept | A.P.Jadhav | 2016 | View Attachment | Download
2 | Material Testing Referral Lab | Study of grout addihsives of razon | R.L.Damani | 2002 | View Attachment | Download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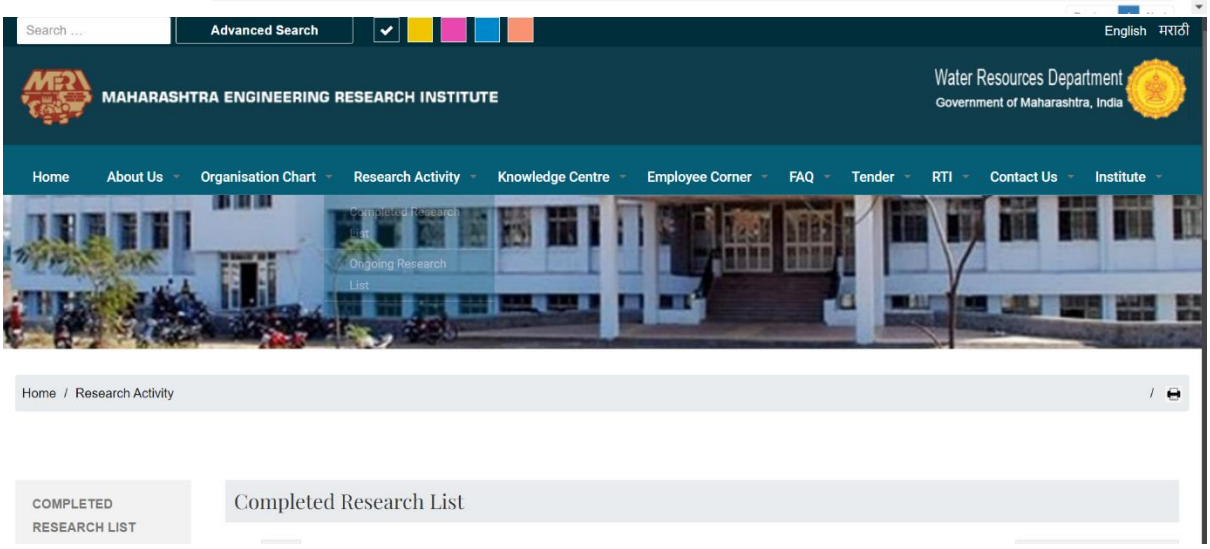
Ongoing Research List
Show 10 entries
Search:
Sr.No. | Dvision | Subject | Author | View/Download
1 | Highway Research Division No.1 | Use of Safety on construction | Satish D | View Attachment | Download
2 | Highway Research Division No.1 | Use of bamboo construction | V.H.Kotejha | View Attachment | Download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Ongoing Research List
Home / Research Activity
COMPLETED RESEARCH LIST
Completed Research List

3.21.2 Requirement ID: (MERI)FR-5

Requirement Name: Knowledge Centre

• **Requirement Description:** Knowledge Centre menu would be provided under the main Menu Bar of the Home Page. The respective tab will show the information of Awards/Notable works/ Paper published by WRD Officers, rate list, WRD handbooks. Knowledge Centre is sub divided into the sub menus. From those some of the sub menus were handled through CMS & some of the modules will work dynamically.

o Awards/Notable works/ Paper published by WRD Officers: This module will help Department in publishing its Awards/Notable works/ Paper published by WRD Officers on the website. This module will have following features:

Manage Awards/Notable works/ Paper published by WRD Officers through secure online control panel.

Add/Edit/Delete Awards/Notable works/ Paper published by WRD Officers on the website.

Define appropriate MERI tags for each Awards/Notable works/ Paper published by WRD Officers.

Preview and Publish Awards/Notable works/ Paper published by WRD Officers on the website.

o Rate list: Rate List menu will be a content, Page. The MERI Administrator will manage Rate List Content.

o WRD handbook: WRD handbook menu will be a content, Page. The MERI Administrator will manage WRD handbook Content.

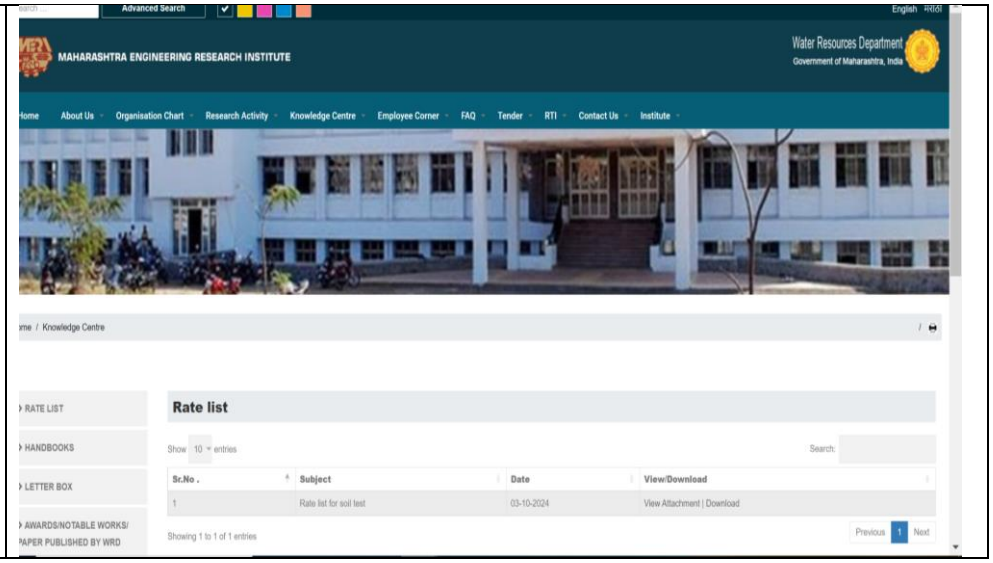
Data Fields/ Elements: The categories under Knowledge Centre will be managed through Knowledge Centre Module.

Knowledge Centre

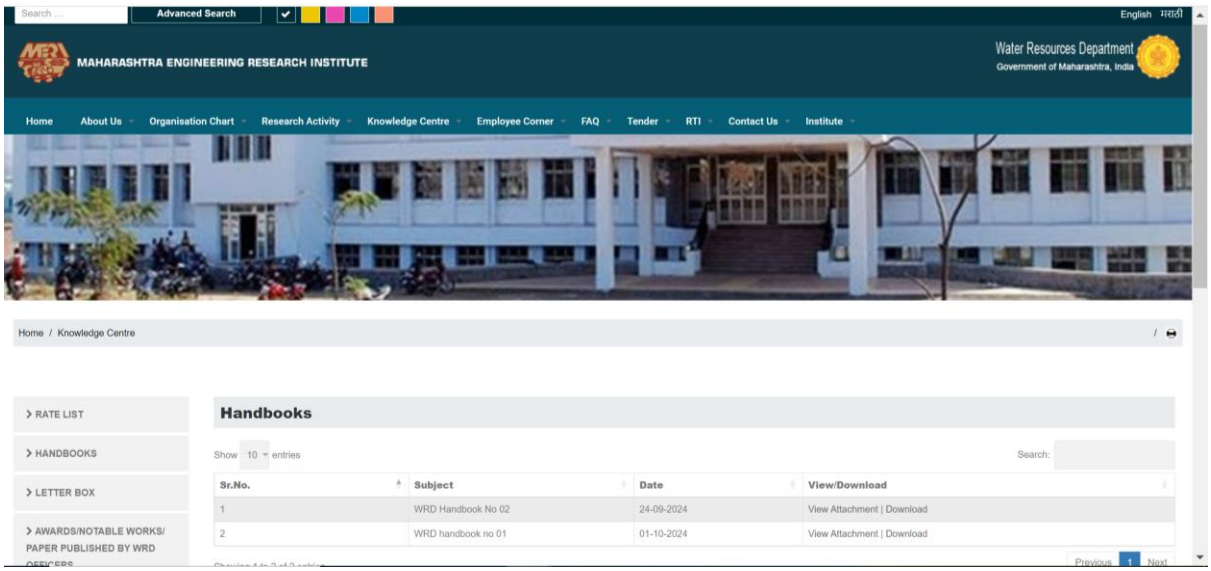
o Awards/Notable works/ Paper published by WRD Officers
o Rate list
o WRD handbook
o Letter box

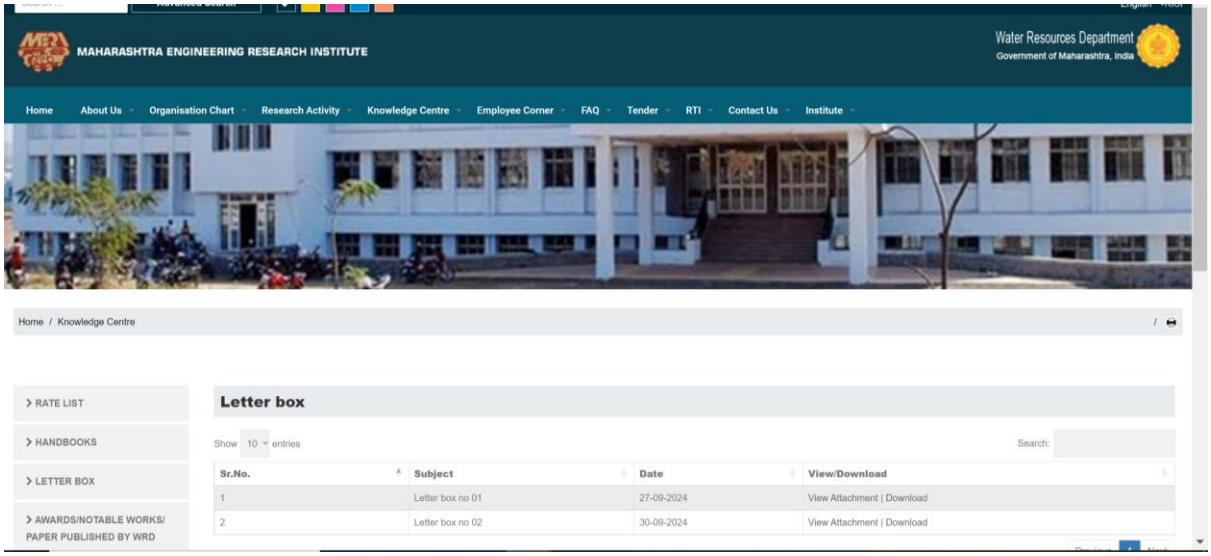
Requirement Name:	Knowledge Centre
Requirement Description:	The respective tab will show the information of Awards/Notable works/ Paper published by WRD Officers, rate list, WRD handbooks.
Primary Actor:	Administrative, Website User
Main Success Scenario	Screen Containing following Functionality. • Rate list • Handbooks • Letter box • Awards/Notable works/ Paper published by WRD Officers
Trigger	Knowledge Centre activation occurs when the administrator logs into the control panel or when users access the Knowledge Centre from the homepage

Business Rule:	The Knowledge Centre is a centralized platform for the Water Resources Department (WRD) to showcase achievements and provide essential resources, promoting transparency and accessibility. **1. Awards/Notable Works/Papers Published by WRD Officers** • **Purpose:** Highlights WRD officers' achievements, fostering recognition and motivation. • **Features:** Secure management, content editing, MERI tagging for searchability, and preview options to ensure quality. • **Impact:** Enhances public image and encourages knowledge sharing. **2. Rate List** • **Purpose:** Provides stakeholders with clear, updated pricing information for WRD services. • **Management:** Maintained by the MERI Administrator for accuracy and transparency. • **Impact:** Builds trust and facilitates informed decision-making. **3. WRD Handbook** • **Purpose:** A comprehensive guide on policies and procedures for WRD operations. • **Management:** Regularly updated by the MERI Administrator. • **Impact:** Promotes consistency and compliance among staff and stakeholders. **4. Letter Box** • **Purpose:** A feedback mechanism for inquiries and suggestions from users. • **Management:** Organizes and ensures timely responses to communications. • **Impact:** Enhances stakeholder engagement and fosters a culture of improvement.

User screen:	

User Screen For Knowledge Center :





3.21.3 Requirement ID: (MERI)FR-6

Requirement Name: Employee Corner

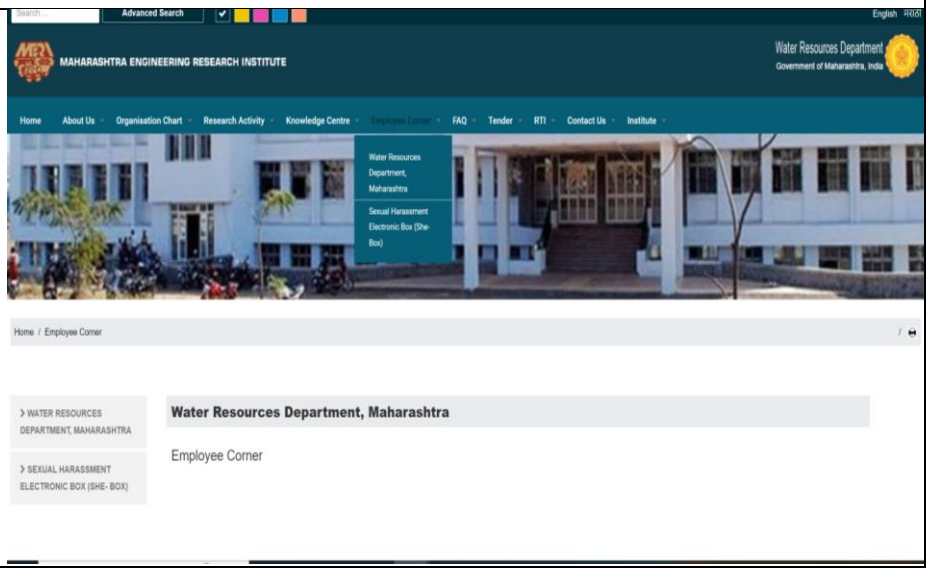
Requirement Description: The Employee Corner Module will provide essential resources and information for employees of the Water Resources Department (WRD) of Maharashtra. It will include hyperlinked menus to facilitate easy access to various sections, such as the Women Sexual Harassment Complaint Box (linked to the Shebox site) and a table of circulars that lists relevant details, which can be exported in Excel format for convenience.

Data Fields/ Elements: Upon accessing the Employee Corner, users will find a hyperlinked menu leading to the PORTAL Employee Corner. Selecting the Women Sexual Harassment Complaint Box will redirect them to the Shebox site, while clicking on the Circulars section will display a table of relevant details, complete with an option to download in Excel format.

Data Fields/Elements:

- Hyperlinked Menu to PORTAL Employee Corner (Link)
- Women Sexual Harassment Complaint Box (Link)
- Circulars Table (Table)
- Export to Excel (Button)
- Circular Title (Text Field)
- Date Issued (Date Field)
- Reference Number (Text Field)
- Details/Description (Text Area)
- Action Required (Dropdown)

Requirement Name	Employee Centre
Requirement Description	provide essential resources and information for employees of the Water Resources Department (WRD) of Maharashtra. It will include hyperlinked menus to facilitate easy access to various sections, such as the Women Sexual Harassment Complaint

	Box (linked to the She box site) and a table of circulars that lists relevant details, which can be exported in Excel format for convenience
Primary Actor:	User, Administrator
Main Success Scenario	Screen Containing following Functionality. • WRD, Maharashtra • Women Sexual Harassment Complaint box • Circulars
Trigger	Employee Corner activation occurs when an employee accesses the Employee Corner from the main menu.
Business Rule:	The Employee Corner Module provides essential resources and information for employees of the Water Resources Department (WRD) of Maharashtra, promoting accessibility and transparency. **4 Key Features** 1. **Hyperlinked Menu to PORTAL Employee Corner** o Central navigation for accessing resources. 2. **Women Sexual Harassment Complaint Box** o Direct link to Shebox for filing harassment complaints, enhancing workplace safety and support. 3. **Circulars Table** o Displays important circulars with options to: ▪ **Export to Excel** for easy reference.
User screen:	

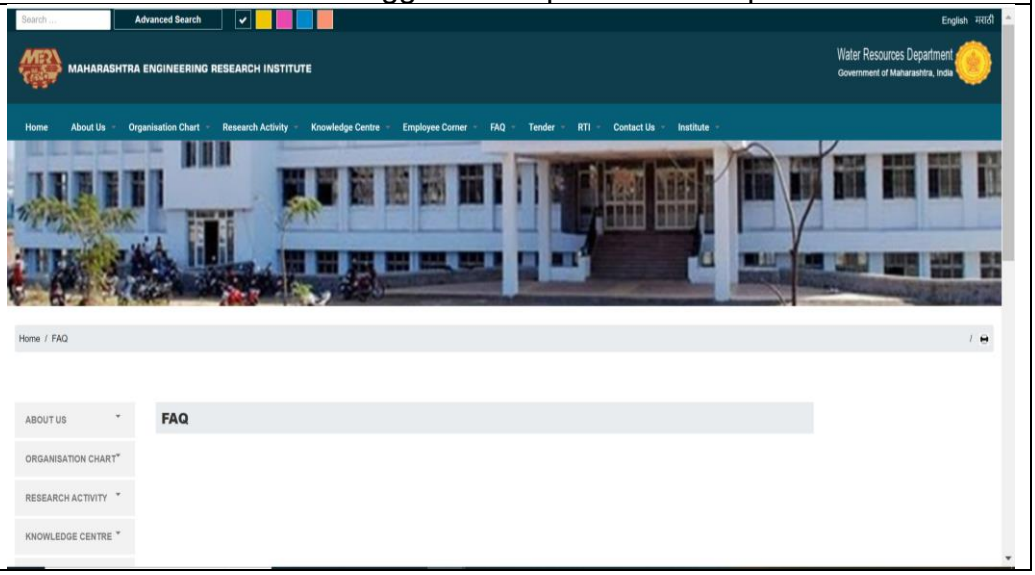
4.1.1 Requirement ID: (MERI)FR-7

Requirement Name: Frequently Asked Questions (FAQ)

Requirement Description: FAQ menu would be provided under the main Menu Bar of the Home Page. The respective tab will show the data related to the Frequently

Asked Questions. This section will allow management of FAQ section of the website. The administrator will be able view / add / edit / delete information in question answer format.

Data Fields/ Elements: The categories under FAQ will be managed through FAQ Module.

Requirement Name	Frequently Asked Questions (FAQ)
Requirement Description	The respective tab will show the data related to the Frequently Asked Questions. This section will allow management of FAQ section of the website
Primary Actor:	Website User, Administrative
Main Success Scenario	Screen Containing following Functionality. • FAQ
Trigger	FAQ module activation occurs when the administrator logs into the control panel or when users navigate to the FAQ section from the homepage.
Business Rule:	FAQs are regularly reviewed for accuracy and relevance, that there is a clear categorization system, and that a feedback mechanism is established for users to suggest new questions or report issues.
User screen:	

4.1.2 Requirement ID: (MERI)FR-8

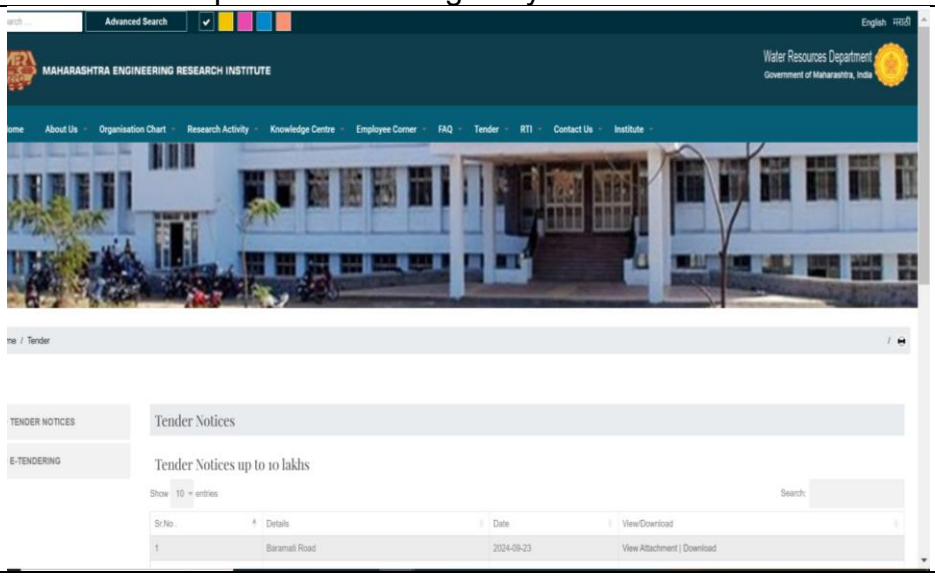
Requirement Name: Tender

• **Requirement Description:** Tender Notice menu would be provided under the main Menu Bar of the Home Page. The respective tab will show the data related to the Tenders Notice Information.

o This module will help Department in publishing Tender Notices, Tender Documents and related corrigendum on the website.

o Will allow Administrator or authorized staff to Add/Edit/Delete Notices for Tenders.

o Tenders will have expiry date and after expiry date it will automatically move to archive section.
o Will also allow Admin or Authorized staff to add documents to existing Tenders.

Requirement Name	Tender
Requirement Description	The respective tab will show the data related to the Tenders Notice Information
Primary Actor:	Website User, Administrative
Main Success Scenario	Screen Containing following Functionality. • Tender
Trigger	Tender module activation occurs when administrators or authorized staff log into the control panel to manage tender notices, or when users access the Tender section from the homepage.
Business Rule:	tender notices for accuracy, enforcement of expiry dates uploaded in the form of text or pdf will be managed by the administrative.
User screen:	

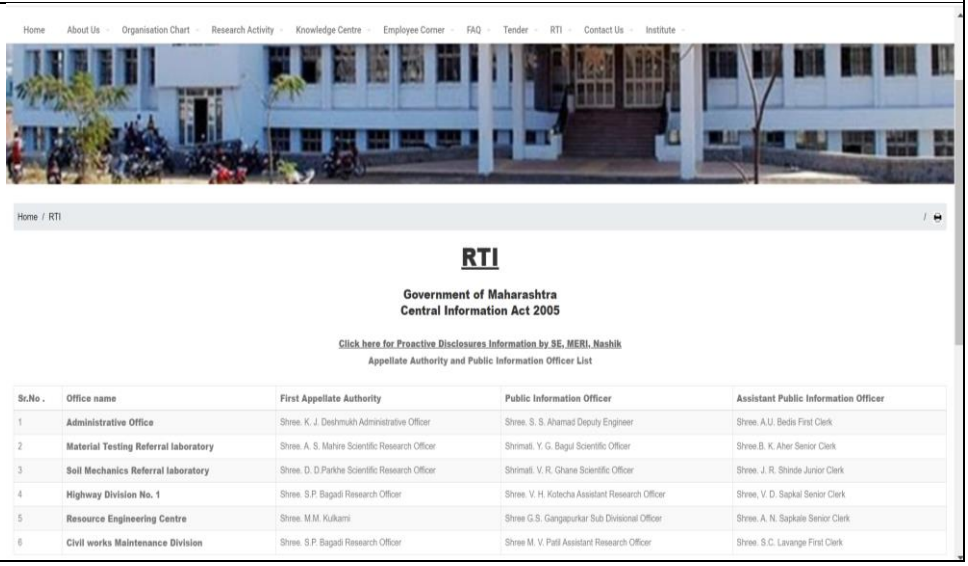
4.1.3 Requirement ID: FR-9

Requirement Name: RTI

Requirement Description: RTI menu is provided under the main Menu Bar of the Home Page. The respective tab will show the data related to the RTI ‘S of the MERI. This module will help Department in publishing its completed and ongoing RTI on the website. This module will have following features:

This will consist of Different Citizens.

User Screen:

Requirement Name	RTI
Requirement Description:	RTI menu will be a content, Page.
Primary Actor:	The MERI Administrator will manage RTI Content.
Precondition : Success Guarantees:	User ,Administrative.
Main Success Scenario:	Screen Containing following Functionality. • RTI Act • RTI Officers Information • Proactive Disclosers
Business Module:	Business rules require that the MERI Administrator maintains updated RTI content in the CMS, ensuring menu accessibility, user permissions for content management, responsive design, and a feedback mechanism for users.
User Screen	

4.1.4 Requirement ID: (MERI)FR-10

Requirement Name: Contact Us

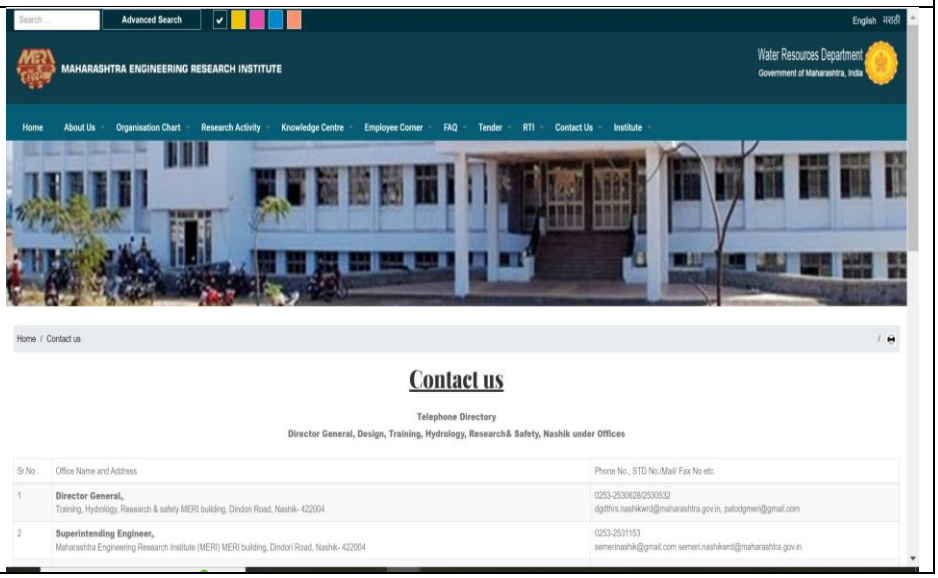
• **Requirement Description:** The menu for Contact Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the detail about contact details of MERI. This will be a content-based CMS page managed by the Site Administrator.

Data Fields/ Elements: The categories under Contact Us will be managed through CMS i.e. Content Management System.

Contact Us

o Contact Info

o Location Map
o Tourist Locations

Requirement Name	Contact Us
Requirement Description	This will help the department to give the detail about contact details of MERI
Primary Actor:	Website User, Administrative.
Main Success Scenario:	Screen Containing following Functionality. • Contact Us
Trigger	"Contact Us" module activation occurs when users navigate to the "Contact Us" section from the main menu.
Business Module:	contact information is regularly updated by the administrative, that the location map accurately reflects MERI's address, and that information about tourist locations is relevant and helpful for visitors.
User Screen	

4.1.5 Requirement ID: (MERI)FR-11

Requirement Name: External Links

• **Requirement Description:** The External Links Module will provide a curated list of hyperlinked websites relevant to users, enhancing their access to additional resources and information. Each link will be clearly labelled and organized for easy navigation.

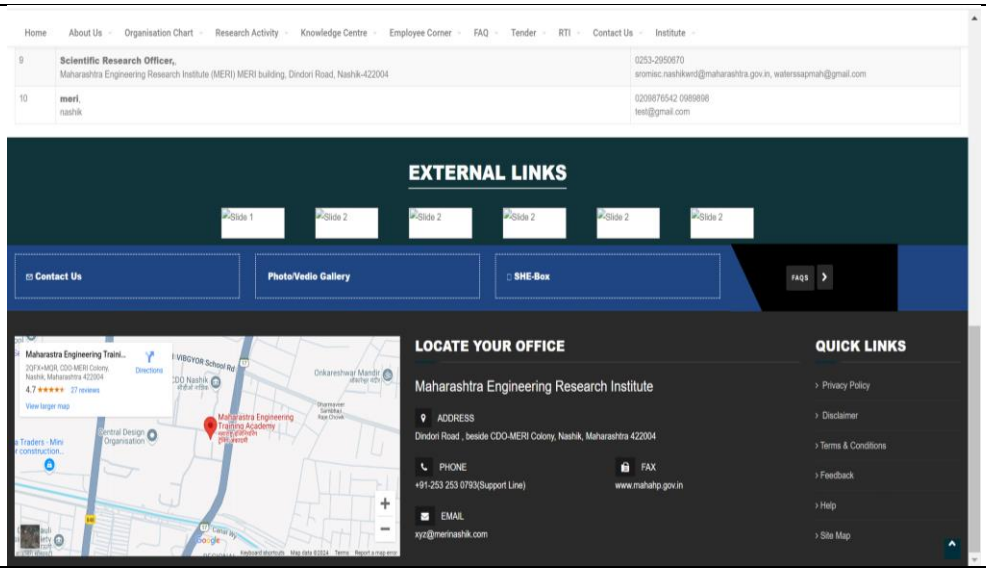
Stimulus/Response Sequences: When a user accesses the External Links section, they will see a list of hyperlinked websites; upon clicking any link, the user will be redirected to the corresponding external site, allowing for seamless exploration of additional resources

Data Fields/ Elements:

- Link Label (Text Field)
- URL (Text Field)
- Description (Text Area)
- Category (Dropdown)
- Open in New Tab (Checkbox)

Requirement Name:	External Links
Requirement Description:	curated list of hyperlinked websites relevant to users, enhancing their access to additional resources and information
Primary Actor:	Website User, Administrative
Main Success Scenario:	Screen Containing following Functionality. • External links
Trigger	External Links module activation occurs when users navigate to the "External Links" section from the main menu.

Business Module:	The External Links Module provides users with a curated list of hyperlinked websites maintained by the administrative, facilitating easy access to relevant resources and information.
	
	• **Curated Links:** Offers quick access to external resources, saving users time and effort.
	• **Data Fields:**
	  ○ **Link Label:** Clearly indicates the content of the link.
	  ○ **URL:** Direct web address for seamless navigation.
	  ○ **Description:** Provides context for each resource.
	  ○ **Category:** Organizes links for easier browsing.
	  ○ **Open in New Tab:** Enhances usability by allowing links to open in new tabs.

User Screen	

4.1.6 Requirement ID: (MERI)FR-12

Requirement Name: E-GOV.

Requirement Description: E-Gov. menu will be a link to WRD (wrd.maharasgtra.gov.in). The MERI Administrator will manage E-Gov. Content.
Stimulus/ Response Sequences: On a click of E-Gov., user will redirect to wrd.maharasgtra.gov.in.
Data Fields/ Elements:

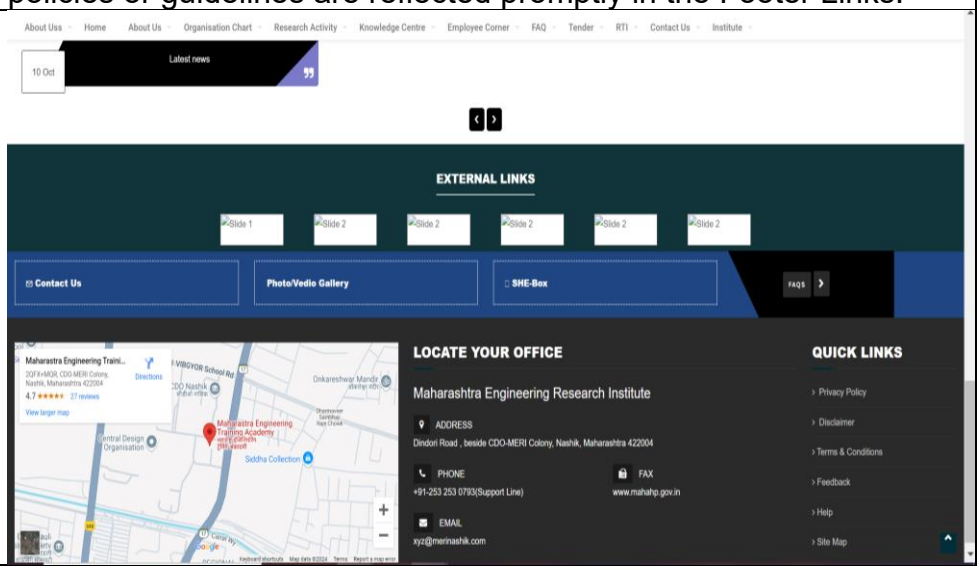
- E-Gov.
- Women Sexual harassment Complaint Box.
- Circulars.

Requirement Name:	E-GOV.
Requirement Description:	menu will be a link to WRD (wrd.maharasgtra.gov.in
Primary Actor:	The MERI Administrator will manage E-Gov. Content.
Main Success Scenario:	Screen Containing following Functionality • E-Gov. • Women Sexual harassment Complaint Box. • Circulars
Trigger	E-Gov module activation occurs when users select the "E-Gov" option from the main menu.
Business Module:	all links are regularly checked for accuracy and relevance, and that any necessary updates to content are performed promptly
User Screen	

4.1.7 Requirement ID: (MERI) FR-13

Requirement Name: Footer Links
• **Requirement Description:** The links that appear at the bottom of every page are referred as Footer Links. These are useful for the providing the useful and miscellaneous link of the website.
Stimulus/ Response Sequences: On a click of the respective footer link, user can view the details.
Data Fields/ Elements: The following modules will necessary be cover under the Archive

- ➢ Privacy Policy
- ➢ Disclaimer
- ➢ Terms & Conditions
- ➢ Feedback
- ➢ Help
- ➢ Policies
- ➢ Site Map
- ➢ Contact Us

Requirement Name:	Footer Links
Requirement Description:	The links that appear at the bottom of every page are referred as Footer Links
Primary Actor:	User, Administrative .
Main Success Scenario:	Screen Containing following Functionality ➢ Privacy Policy ➢ Disclaimer ➢ Terms & Conditions ➢ Feedback ➢ Help ➢ Policies ➢ Site Map ➢ Contact Us
Trigger	Footer Links module activation occurs automatically as users navigate to any page on the website.
Business Module:	all links are regularly reviewed and updated by the adminstraive to ensure they remain active and relevant, and that any changes to policies or guidelines are reflected promptly in the Footer Links.
User Screen	

4.1.8 Requirement ID: (MERI)FR-14

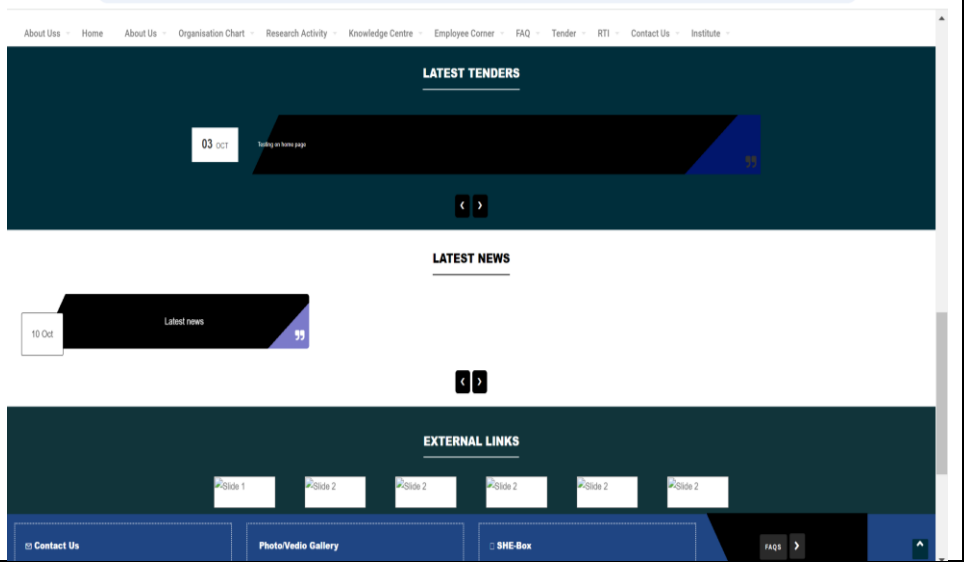
Requirement Name: Events

• **Requirement Description:** Events Information will be provided on the home page of the MERI website. The respective module will show the data related to the Events. This module will help department in managing details of their upcoming Events, past events, events catalogue. We will develop this module with the following features:

o Add / Edit / Deactivate Events through secure online control panel.

Manage Events Details including the following:
Events General Information.
Schedule.
Registration information.
Download documents.
Manage Events details including the following:

- Upload Events Photos.
- Upload Post Events documents.
- Upload Events details.

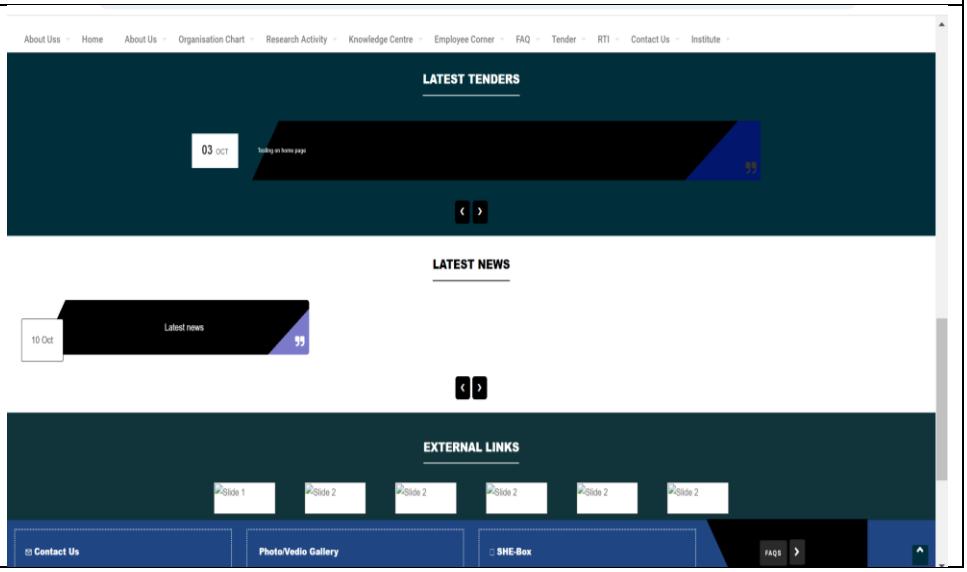
Requirement Name:	Events
Requirement Description:	Events Information will be provided on the home page of the MERI website
Primary Actor:	User
Main Success Scenario:	Screen Containing following Functionality ➢ Events
Trigger	Events module activation occurs when users click on the "Events" section from the home page.
Business Module:	event information is regularly updated by the administrative , that past events are archived appropriately, and that any changes in event details are promptly reflected on the website.
User Screen	

4.1.9 Requirement ID: (MERI)FR-15

Requirement Name: Media Gallery

- **Requirement Description:** Content comes from the Video/Photo management Module. We will develop an advanced Media gallery module to allow website team to publish best quality photos/videos on the website. Some of the unique features of Media gallery module will be:

o Will allow uploading of Image/Video Name, Image/Video, Image/Video Description and MERI tags for each image/Video.
o Will have facility to view/add/edit/delete Images/Video in JPEG, GIF, PNG and FLV format.
o Will allow review, editing and publishing layers to ensure correctness of the content.

Requirement Name:	Media Gallery
Requirement Description:	Content comes from the Video/Photo management Module
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality ➢ Media Gallery
Trigger	Media Gallery activation occurs when users navigate to the Media Gallery section from the homepage or relevant navigation menu.
Business Module:	media content should be Published by the Administrative.
User Screen	

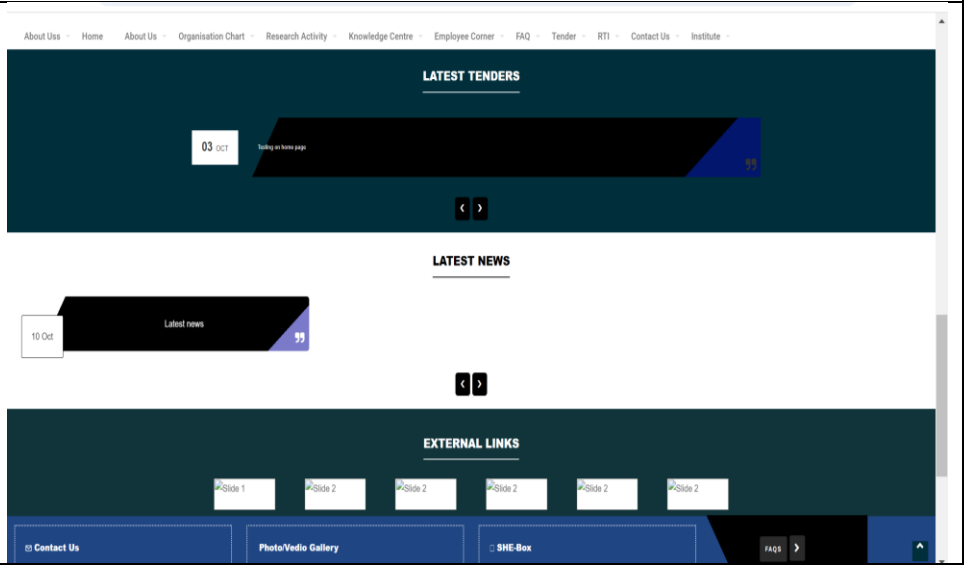
4.1.10 Requirement ID: (MERI)FR-16

Requirement Name: Circulars

Requirement Description: Circulars menu would be provided under the main Menu Bar of the Home Page. The respective tab will show the data related to the Circulars of the MERI. This module will help Department in publishing its public circulars on the website. This module will have following features:

1. Manage Circulars through secure online control panel.
2. Add/Edit/Delete Circulars on the website.
3. Define expiry date for each circular for automatic transfer into the archives section after specified period.
4. Define appropriate Meta tags for each circular for listing in search engine.
5. Preview and Publish Circulars on the website.

Data Fields/ Elements: The categories under Circulars will be managed through Circulars Module.

Requirement Name:	Circulars
Requirement Description:	The respective tab will show the data related to the Circulars of the MERI
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality ➢ Circulars
Trigger	when users navigate to the Circulars section from the main menu, initiating the display of circular information**.**
Business Module:	The Circulars Module enables the MERI Department to efficiently manage and publish public circulars on its website, enhancing transparency and accessibility. 1. Secure Online Control Panel: Allows authorized users to manage circulars securely, ensuring data integrity. 2. Add/Edit/Delete Circulars: Provides flexibility to keep information current and relevant, improving communication. 3. Define Expiry Date: Automatically transfers expired circulars to an archives section, keeping the main list organized. 4. Define Meta Tags: Improves search engine visibility, making circulars easier to find. 5. Preview and Publish: Ensures accuracy before publication, maintaining credibility.
User Screen	

4.2 Back End Requirement

Super Administrator Super Administrator can define the user account for the Delegated Admin (Content Creator, Content Reviewer and Content Approver). He will be able to create the roles according to the accessibility privilege granted to the Delegated Admin. Besides this Super Administrator will possess the entire authentication accessibility to upload /publish/edit/delete the content on the CEHP website. Super admin will have full control on all content and files of each institute's website.

Role based Task Assignment Model the Super Administrator can Create/ Edit / Delete Roles and assign to the specific user according to their responsibilities. Admin user will have full control on all content and files in each linked Institutes website. Role: Super Admin can create the user and give access to the following modules:

1) User Manager
2) Content Manager
3) Banner Manager
4) Media Manager
5) Related Links
6) Latest News/Events/Notifications Manager
7) Tenders
8) Department Information Desk Manager
9) Feedbacks
10) Archives
11) Audit Trai

4.3 Navigation Structure

S. No.	Tabs/Links	Module	Menu Location
1.	Common Features • Skip to Main Content • Skip to Navigation • Screen Reader Access [CMS Page] • Accessibility options [Dynamic Page] o Font +/- [Functionality] o Color option [Functionality] Print [Functionality] • Todays Visit Count, Total visit Count, Date of last reviewed [Dynamic Page] • Search within site [Search Website With Google Customized Search] • Site Map • Marathi/English Version of each webpage	Dynamic + CMS	Common Features
2.	Home	Dynamic	Main Menu
3.	About Us • material Testing • soil testing division • resource engineering centre • highway research division no. 1 • civil work maintenance division • General administration • State Asian pacific plans	Content (CMS)	Main Menu
4.	Organisation chart Meri	Content (CMS)	Main Menu

5.	Research • Complete research • Ongoing research	Content (CMS)	Main Menu
6.	Knowledge centre • Rate list • Handbook • Letter box • Awards and notable works	Content (CMS)	Main Menu
7.	Employee corner • Water resource Maharashtra dept. • Sexual harassment electronic box.	Content (CMS)	Main Menu
7.	Header Menu • Screen reader access • Accessibility option • Font+/- • Google custom search • Marathi/ English • Site map • Social media icon • Login.	Content (CMS)	Main menu
8.	Footer menu • Today's visit count • Total visit count • Date of last Reviewed • Link to different policy pages • Relevant logos too • Certificate- compliance of the latest-WCAG, W3C, GIGW		

5 META

5.1 Introduction

The Maharashtra Engineering Training Academy (META), which was formerly called the Engineering Staff College (ESC) in Nashik, was founded by the Government of Maharashtra, India, to provide training for engineers currently in service within the Water Resources and Public Works Departments. The website offers information on the training calendar and professional examinations. META's main objective is to deliver training in engineering and management to develop the skills of in-service engineers for the modern era. It also plays a crucial role in connecting various departments across Maharashtra to improve engineering expertise.

5.2 Business Context

Maharashtra Engineering Training Academy (META), formerly known as Engineering Staff College (ESC), Nashik is established by the Government of Maharashtra (India) to impart training to the in- service engineers, of Water Resources (earlier Irrigation Department) & Public Works Departments. The information on training calendar & professional examinations is available on this web site.

The Primary Objectives of META are to impart trainings in the areas of engineering and management fields to the in-service engineers to develop the skills for the 21st century. META acts as a bridge between all the concerned departments of Maharashtra state to expertise the engineers.

5.3 Key Stakeholders and Roles:

This document is intended for the **META Officials**, the **technical user group**, and the **Mechatronics implementation team**. It provides crucial insights into the system's requirements and functionalities, enabling the development team to gain a clear understanding of the tasks at hand. The content is structured to assist developers in identifying the key features to prioritize and implement in a logical sequence.

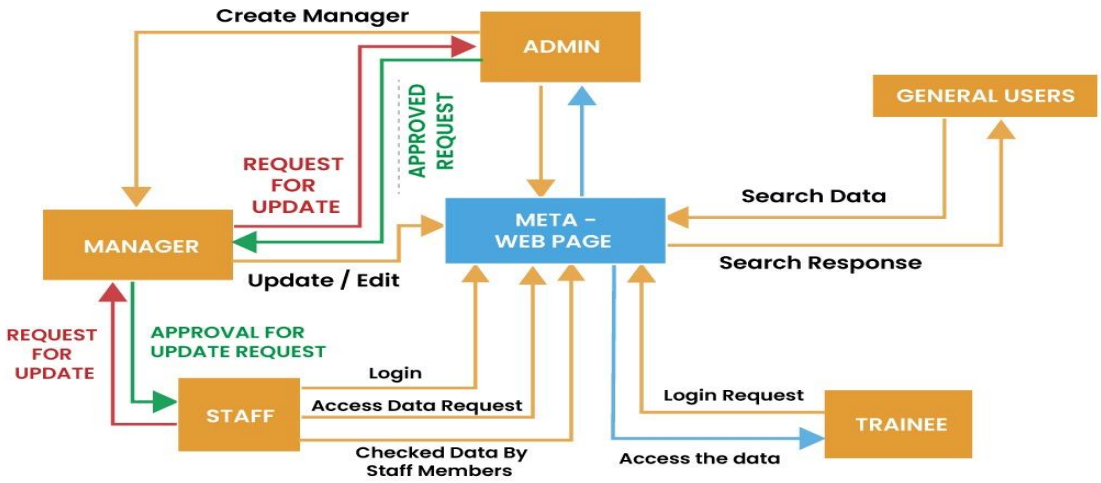
The document targets a broad audience, including:

- **META Officials**: Provides insights on the product scope, functionality, user characteristics, and specific functional and non-functional requirements.
- **Developers**: Focuses on the functional and non-functional requirement specifications, guiding the technical implementation.
- **Designers**: Details the user interfaces, design constraints, and implementation considerations.
- **Testers**: Provides specifications for both functional and non-functional requirements to ensure thorough testing.

- **Business Development Team**: Intended for a comprehensive understanding of the entire document to align the business objectives with technical implementation.
- **Project Managers**: Focuses on an overview of the project, including the external user interfaces and the overall system description.

To facilitate a clear understanding, it is recommended that the document be read in chronological order, with the following tailored reading suggestions for each audience:

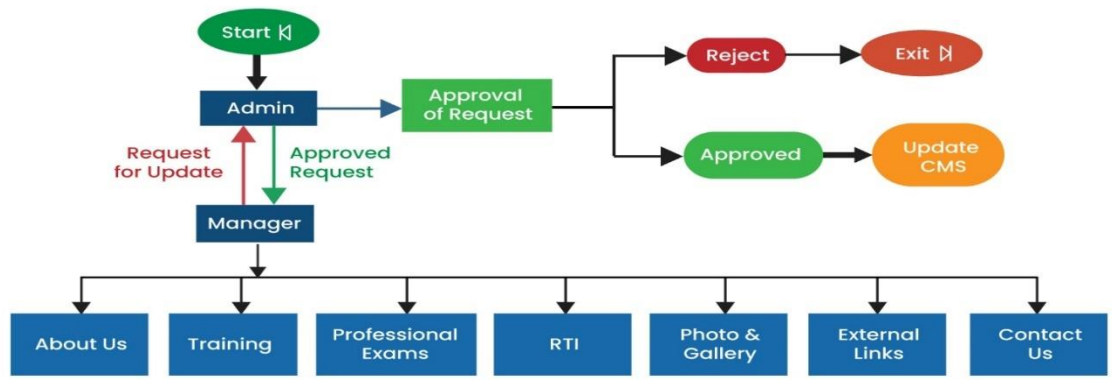
Overall Flow Of META :



5.4 Business Process Flow

This high-level explanation provides clarity on the roles, data flow, and processes involved in the system, which can then be broken down further into more detailed diagrams or business processes based on your software requirements.

Business Flow of META



5.5 Navigation Structure

S. No.	Tabs/Links	Module	Menu Location
1.	Common Features • Skip to Main Content • Skip to Navigation • Screen Reader Access [CMS Page] • Accessibility options [Dynamic Page] o Font +/- [Functionality] o Color option [Functionality] Print [Functionality] • Todays Visit Count, Total visit Count, Date of last reviewed [Dynamic Page] • Search within site [Search Website With Google Customized Search] • Site Map • Marathi/English Version of each webpage	Dynamic + CMS	Common Features
2.	Home	Dynamic	Main Menu
3.	About Us • vision • Mission • organisational chart • Life at META Campus	Content (CMS)	Main Menu
4.	Training: • General • RTC • ATP • Infrastructure • Library • Downloads	Content (CMS)	Main Menu
5.	Professional Exams : • General • Syllabus • Notification	Content (CMS)	Main Menu

	• Registration • Result • Downloads		
6.	RTI • Citizen Charter	Content (CMS)	Main Menu
7.	Contact Us: • Details Of Contacts	Content (CMS)	Main Menu
8.	Header Menu • Screen reader access • Accessibility option • Font+/- • Google custom search • Marathi/ English • Site map • Social media icon • Login.	Content (CMS)	Main menu
9.	Footer menu • Today's visit count • Total visit count • Date of last Reviewed • Link to different policy pages • Relevant logos too • Certificate- compliance of the latest-WCAG, W3C, GIGW		

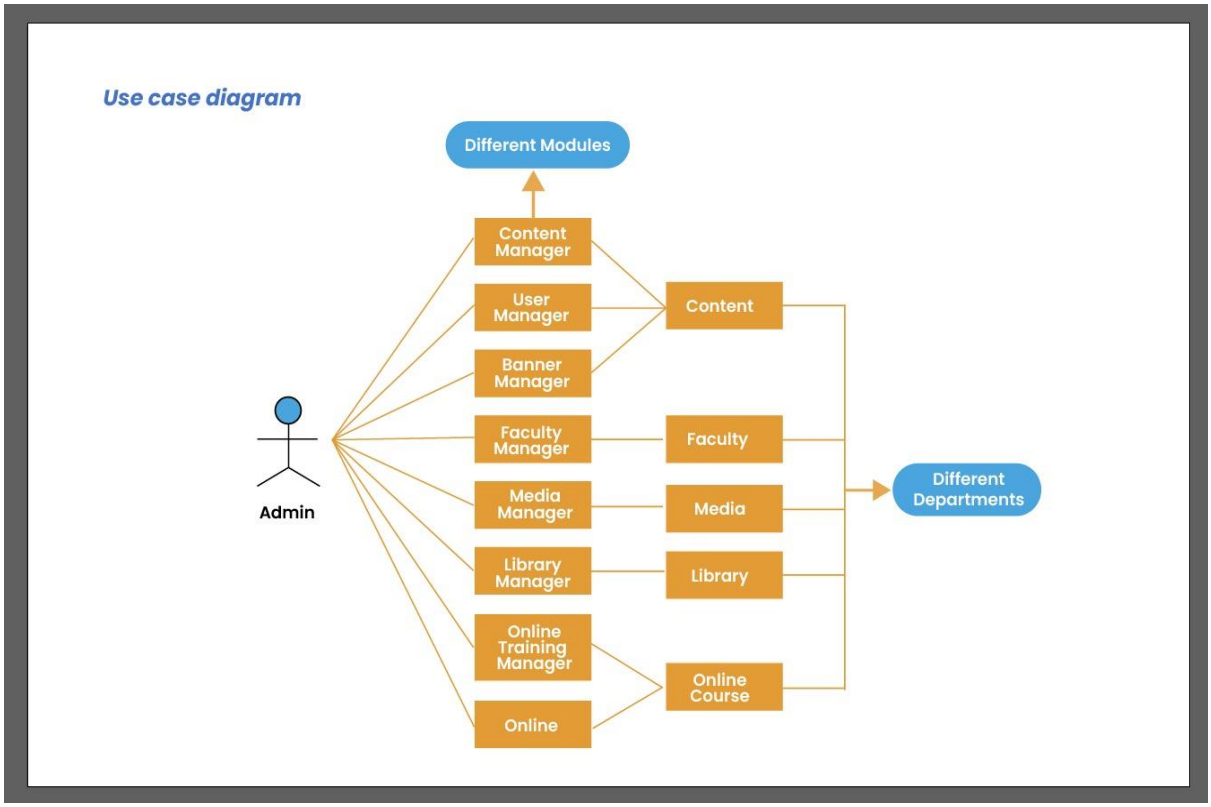
5.6 Use Cases

The proposed flow has been given for general public for visiting the website for viewing general information present on the website and the Administration part for maintaining the website.

The general visitor would be able to view the content of the website, search the website content, View the images and will have accessibility options. It can be shown through below Use Case Diagram:

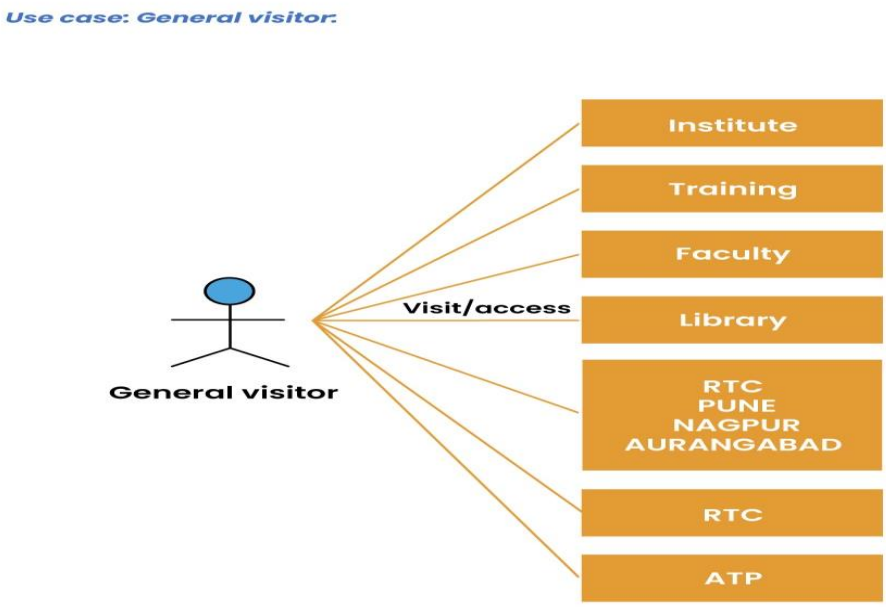
5.7 Use case for Admin:

The Proposed Flow has been given for Admin for handling website 's contents and administrative part for maintaining the website's content of relevant departments .



5.8 Use case for General users:

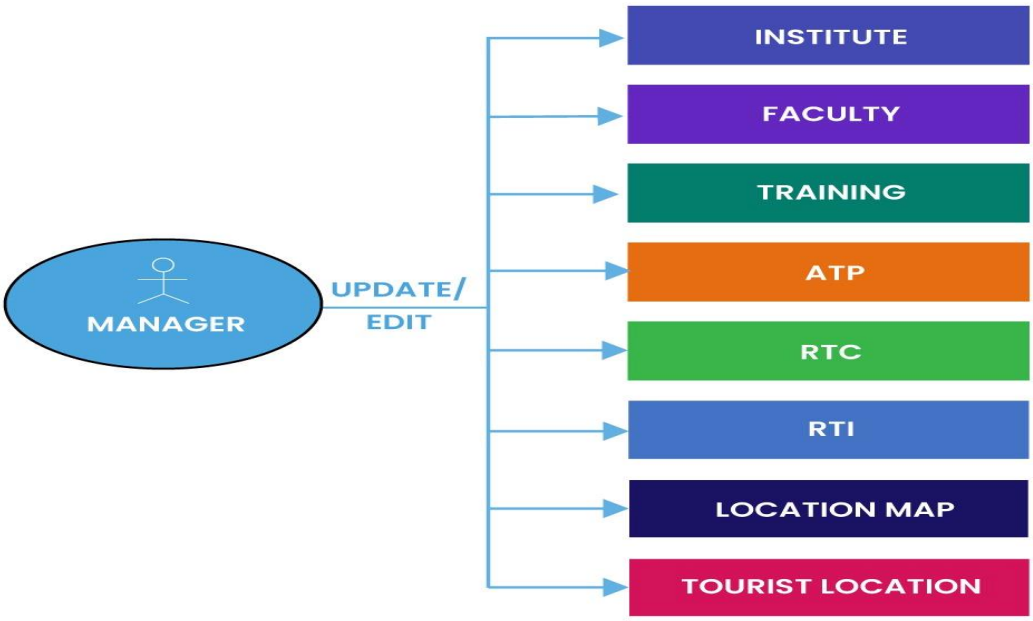
The Proposed Flow has been given for General Users who will able to see the web contents and access the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.



Use case for managers:

The Proposed Flow has been given for Manager who will able to see the web contents and access the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.

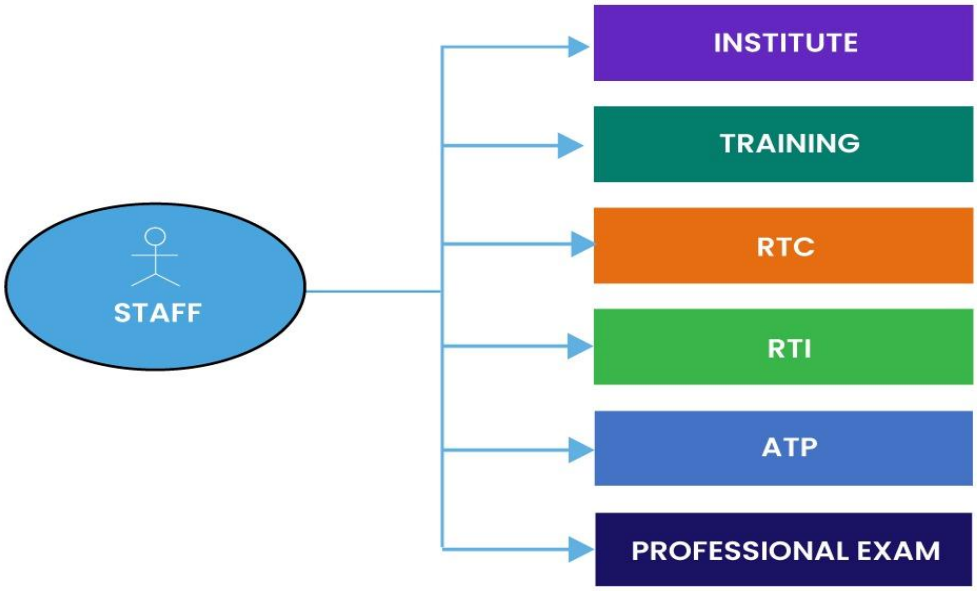
USE CASE DIAGRAM MANAGER :



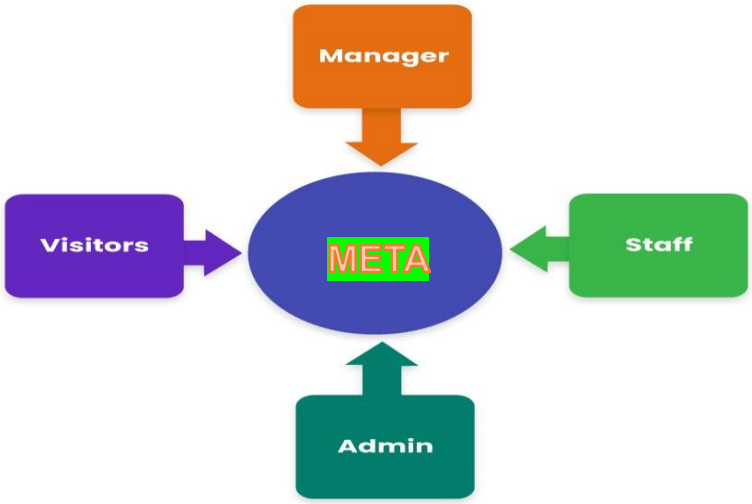
Use case for Staff:

The Proposed Flow has been given for staff who will able to see the web contents and access, update/edit the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.

USE CASE DIAGRAM FOR STAFF:



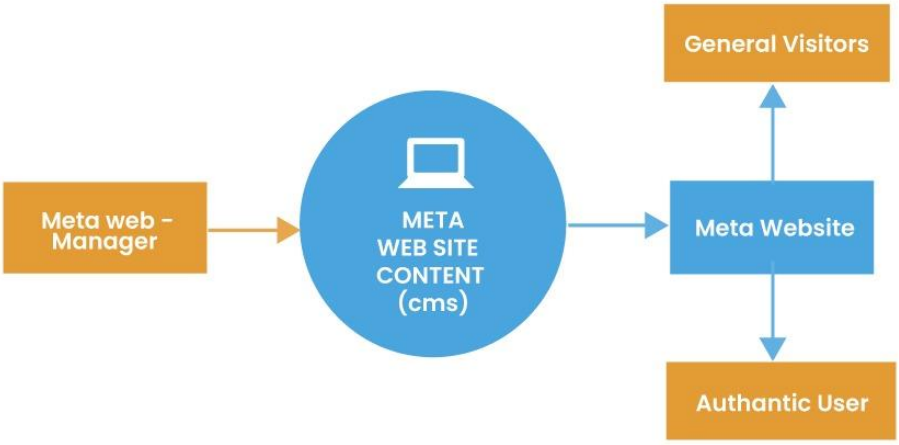
5.9 Data Flow Diagrams



5.10 Data Flow Diagrams

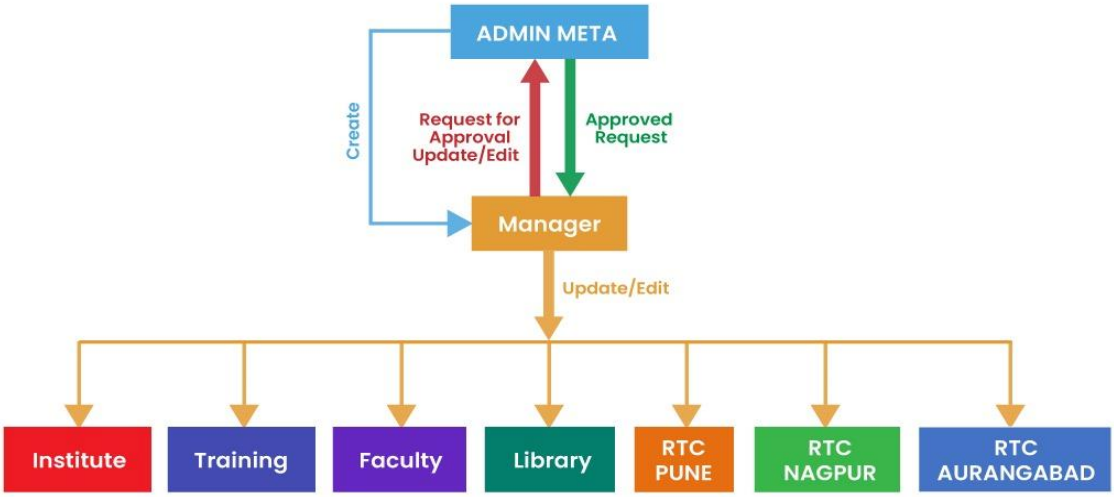
<u>DFD – Level 1</u>

Data Flow Diagram For Meta



DFD – Level 2

DFD 2 :

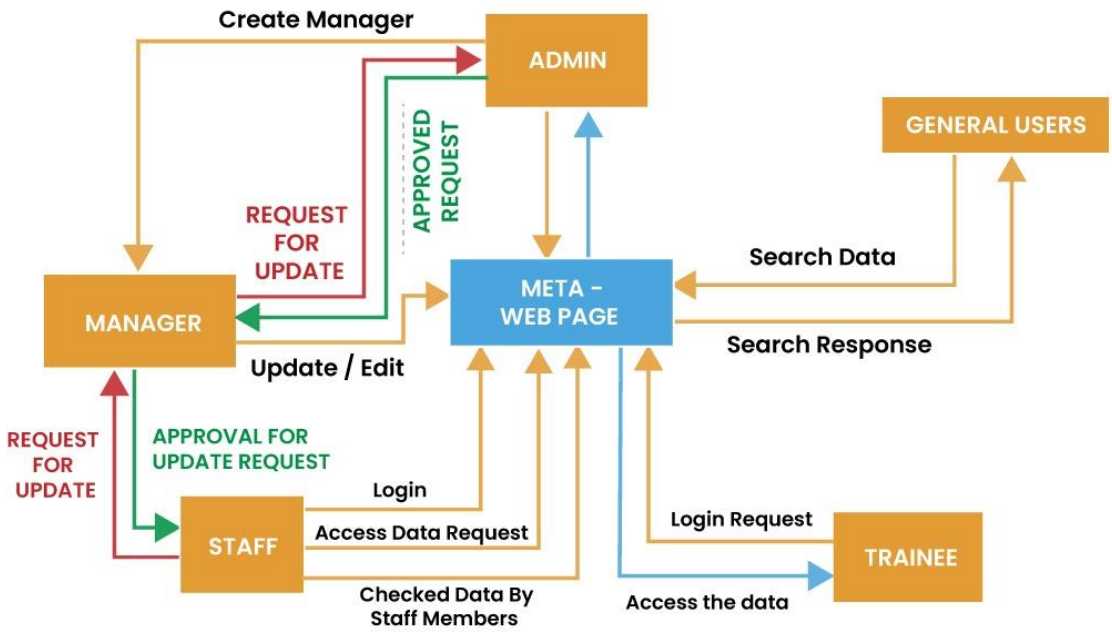


5.11 Specific Requirements

External Interface Requirement:

Context diagram shows the systems external interface requirements :

Overall Flow Of META :



5.12 Functional Requirements

5.13 Detailed Requirement

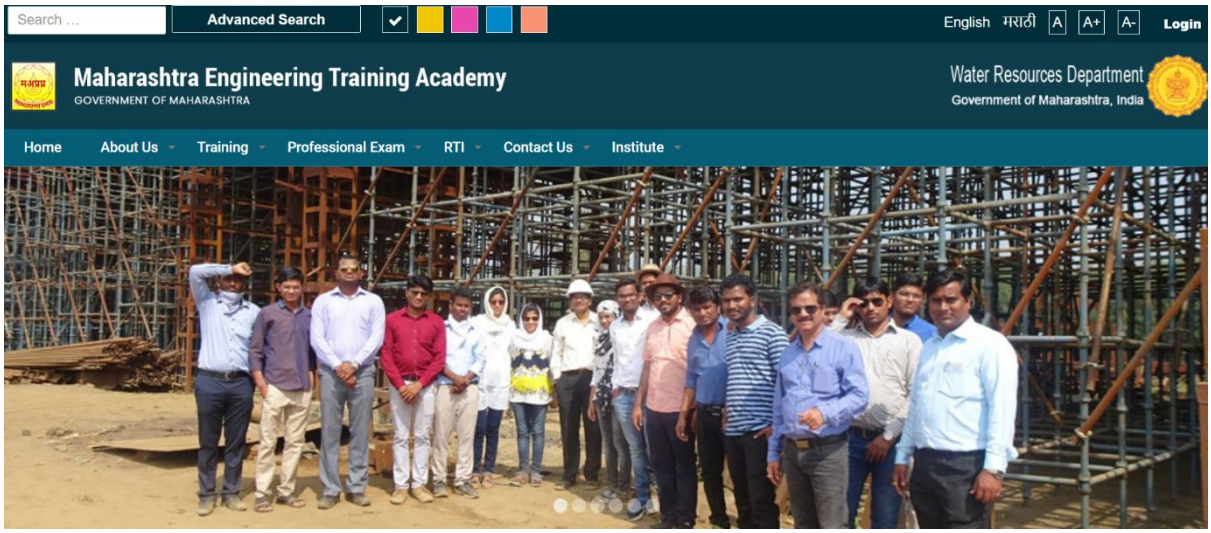
5.14 Requirement ID: FR-1(META)

Requirement Name: Home (Menu Navigation)

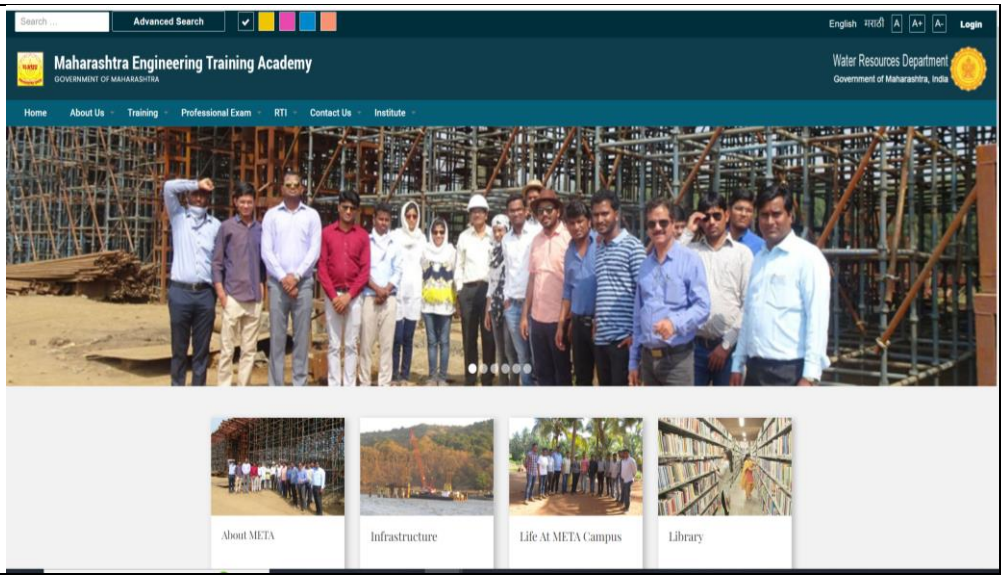
Requirement Description: This would be provided under the Menu Bar of the Home Page. The Mouse hover effect is given to its CSS Style.

User Screen:

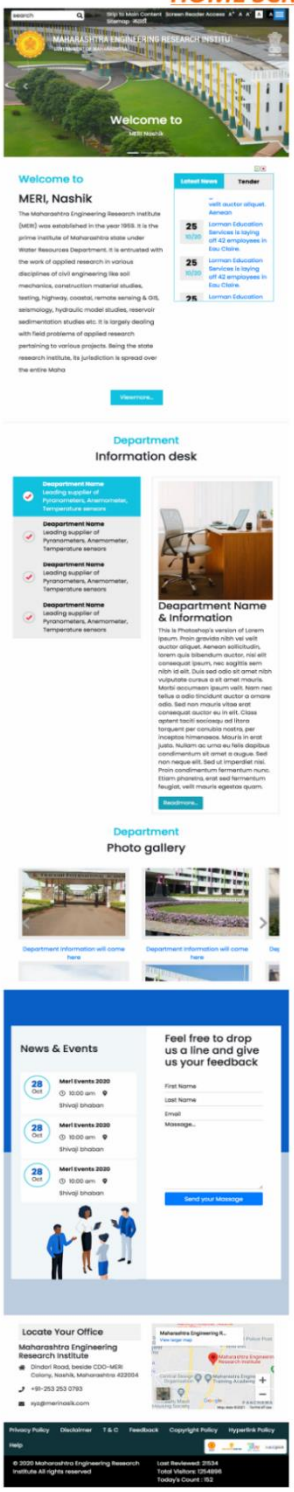
HOME SCREEN – Desktop View

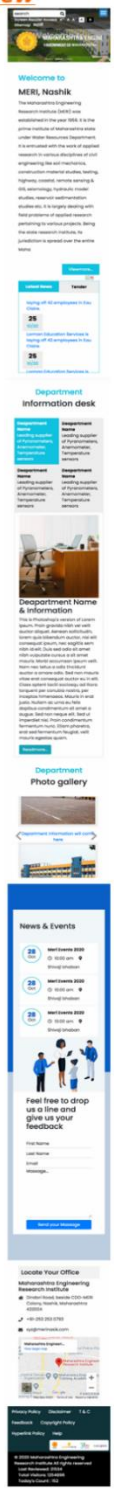


Requirement Name:	Home(navigation)
Requirement Description:	This would be provided under the Menu Bar of the Home Page. The Mouse hover effect is given to its CSS Style.
Context of Use:	This requirement and functional design specification identifies the steps required to view "Home" menu navigation provides users with easy access to the homepage.
Primary Actor:	User, Administrator
Pre-Condition	It will include sections for Upcoming Events, Statistics, a subscription feature for the Annual Training Program, and Academic News, along with details about the Training Management Team. This module will ensure that content is regularly updated and easily accessible to users.
Main Success Scenario	Screen Containing following Functionality. • Calendar • Upcoming Events • Statistics • Get Your Annual Training Program Directly on your Email • Academic News • Training Management Team
Business Rule:	The Home page consist the information about the department

User Screen	 Search ... Advanced Search English मराठी A A+ A- Login Maharashtra Engineering Training Academy GOVERNMENT OF MAHARASHTRA Water Resources Department Government of Maharashtra, India Home About Us Training Professional Exam RTI Contact Us Institute About META Infrastructure Life At META Campus Library

HOME SCREEN – Tablet & Mobile View





Stimulus/ Response Sequences: The user will direct to the main page of the website, on once clicking on the menu.

Data Fields/Elements: Not Required

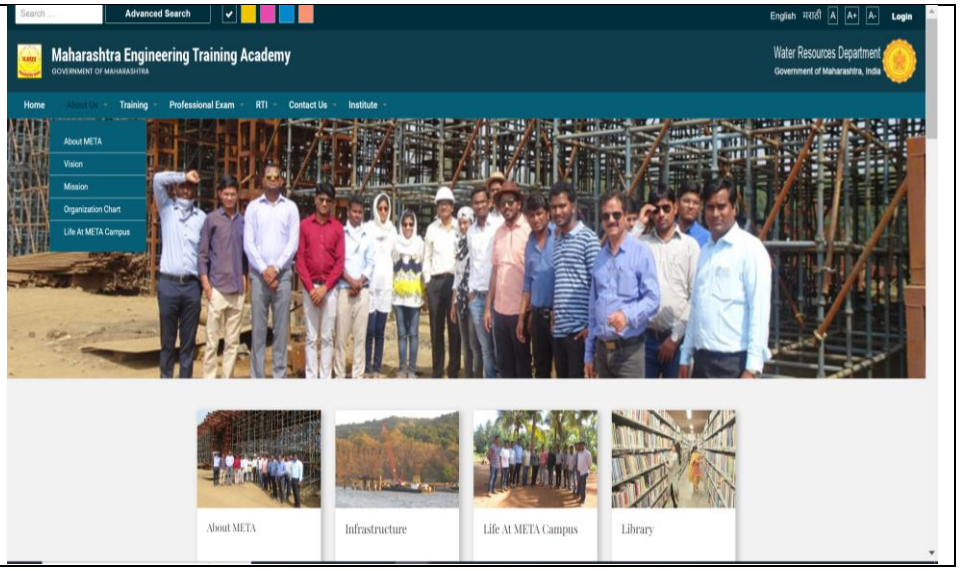
5.15 Requirement ID:(META) FR-2

Requirement Name: About Us

Requirement Description: The menu for About Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the brief introduction about The Maharashtra Engineering Training Academy (META). This will be a content-based CMS page managed by the Site Administrator.

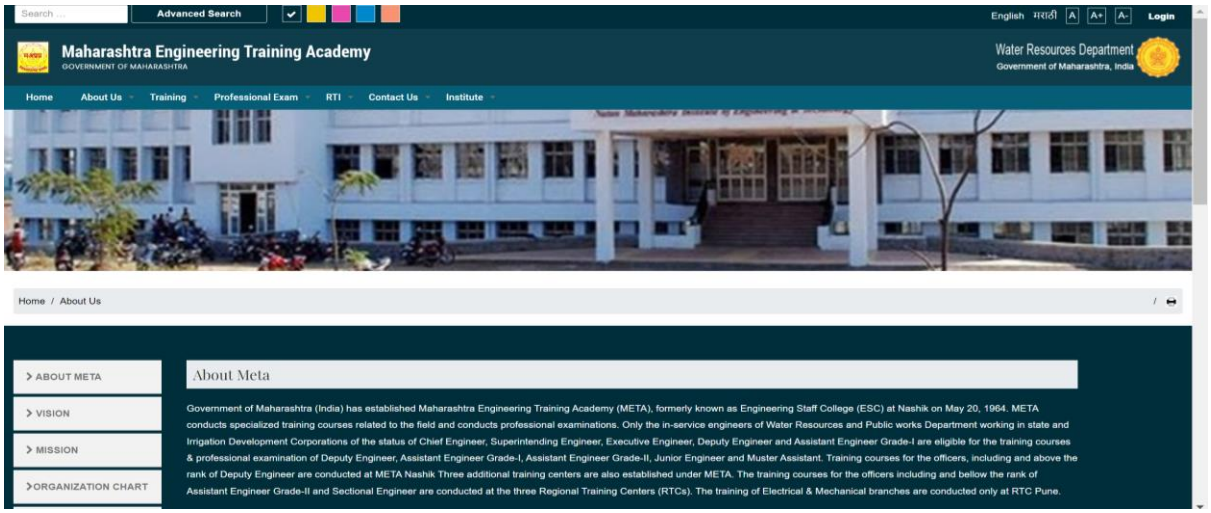
Stimulus/ Response Sequences: On moving the cursor over the About Us tab, the following sub-menus will appear on the drop down.

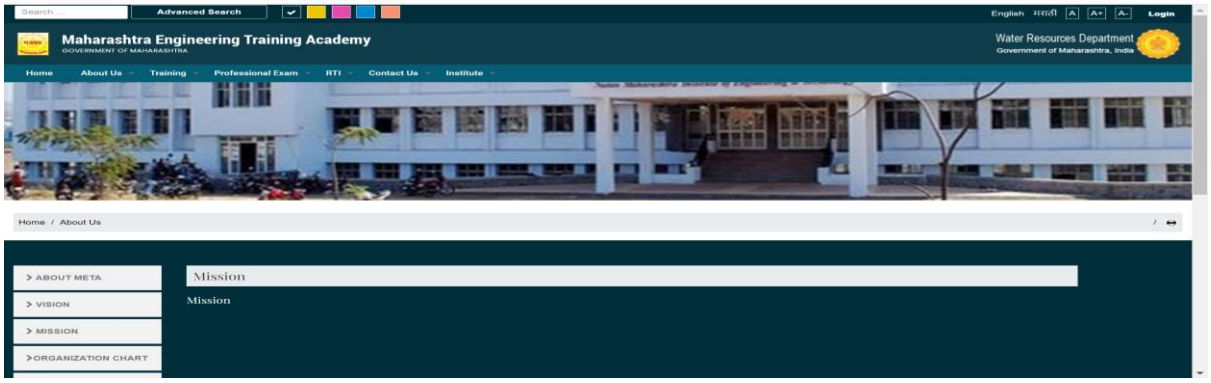
Requirement Name:	About Us
Context of use:	This requirement and functional design specification identifies the steps required to view About us details of particular website
Primary Actor:	Site Administrator
Precondition: Success Guarantees:	• Only About us Details can be entered • Data Can't be Remove once saved by Administrator/ Super Admin • Data saved successfully.
Main Success Scenario:	Screen Containing following Functionality. • About META, • Vision, • Mission Organization, • Chart Life @META Campus
Business Rules:	Administrator and contain manager has privileges to Add & Update category Details.

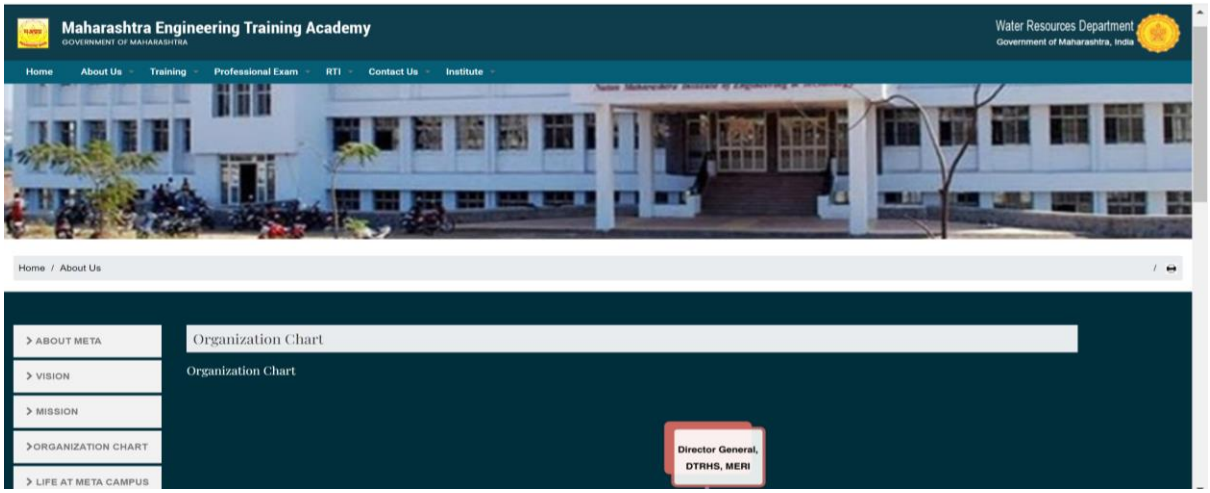
Use screen:	

5.16 ABOUT META SCREEN

User Screen:







5.17 Requirement ID: FR-3(META)

Requirement Name: Training

• **Requirement Description:** The Training menu will be accessible from the main Menu Bar located on the Home Page, featuring a Mouse Hover Effect in its CSS design. This functionality will enable the department to present a concise overview of the Training offered at The Maharashtra Engineering Training Academy (META). The content for this page will be managed by the Site Administrator through a content-based CMS.

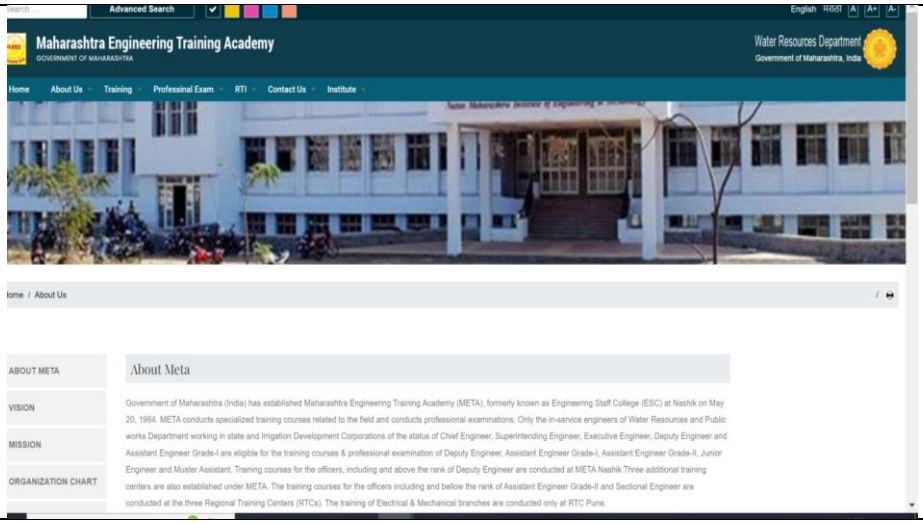
Data Fields/ Elements: The categories under Training will be managed through CMS i.e. Content Management System.

Training

- General
- RTC
  - RTC Pune
  - RTC Aurangabad
  - RTC Nagpur
- ATP
  - META
  - RTCP
  - RTCA
  - RTCN
- Infrastructure
- Library
- Downloads
- Guest Faculty
- Online Training

Requirement Name:	Training
Requirement	This functionality will enable the department to present a concise overview of the Training offered at The Maharashtra Engineering Training Academy (META)

Description:	
Primary Actor:	The content for this page will be managed by the Site Administrator through a content-based CMS
Precondition: Success Guarantees:	Success guarantees that the CMS is operational, content is approved, the menu item is integrated, user permissions are set, the design is responsive, and all functionalities
Trigger	The trigger for the Training page activation occurs when the Site Administrator successfully publishes approved content in the CMS and integrates the "Training" menu item into the main menu bar.
Main Success Scenario:	Screen Containing following Functionality. • General • RTC ▪ RTC Pune ▪ RTC Aurangabad ▪ RTC Nagpur • ATP ▪ META ▪ RTCP ▪ RTCA ▪ RTCN • Infrastructure • Library • Downloads • Guest Faculty • Online Training
Business Module:	The Training Module provides an overview of training programs at The Maharashtra Engineering Training Academy (META), accessible from the home page with a mouse hover effect for enhanced user engagement. 1. **Structured Categories:** Includes sections for General training, Regional Training Centres (Pune, Aurangabad, Nagpur), Advanced Training Programs (META, RTCP, RTCA, RTCN), Infrastructure, Library resources, Downloads, Guest Faculty, and Online Training. .

User Screen:	

Data Fields/ Elements: The categories under Organisation Chart will be managed through CMS i.e. Content Management System.

5.18 Requirement ID-FR-4(META)

Requirement Name: Professional Exam

• **Requirement Description:** The main Menu Bar on the Home Page will feature a Training menu. This tab will showcase data pertinent to the Training module of the META. The Training module consists of various submenus, with certain ones controlled by the CMS and others that operate in a dynamic manner

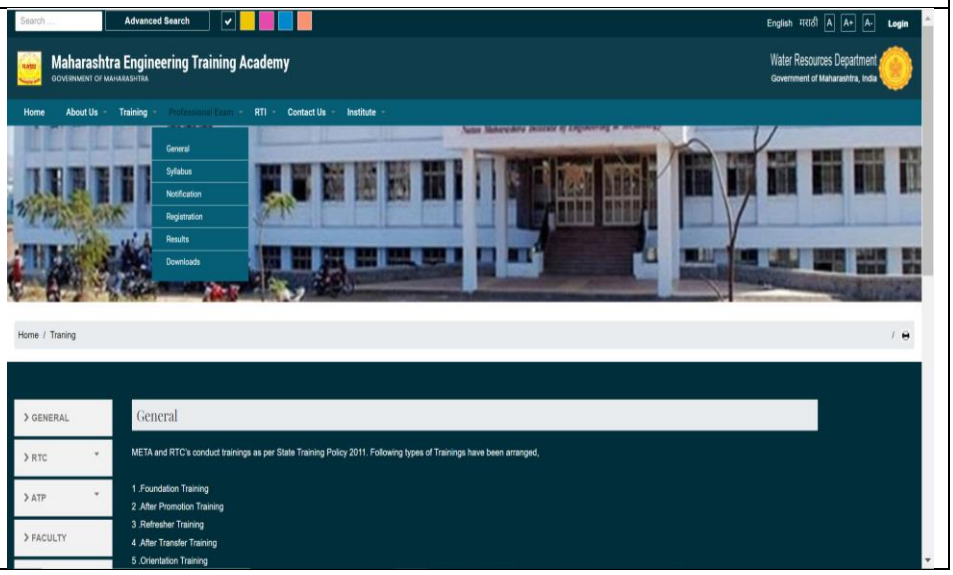
Data Fields/ Elements: The categories under Training will be managed through CMS i.e. Content Management System.

Training

- General
- Syllabus
- Notification
- Registration
- Results
- Downloads

Data Fields/ Elements: The categories under Circulars will be managed through Circulars Module.

Requirement Name:	Professional Exam
Requirement Description:	The main Menu Bar on the Home Page will feature a Training menu. This tab will showcase data pertinent to the Training module of the META.
Primary Actor:	The content for this page will be managed by the Site Administrator through a content-based CMS and others that operate in a dynamic manner

Precondition: Success Guarantees:	Success guarantees that the CMS is operational, content is approved, the menu item is integrated, user permissions are set, the design is responsive, and all functionalities
Main Success Scenario:	Screen Containing following Functionality. • General • Syllabus • Notification • Registration • Results • Downloads
Business Module:	The Maharashtra Engineering Training Academy (META), accessible via the Training menu on the home page. 1. **Structured Categories:** ○ **General:** Overview of the training program. ○ **Syllabus:** Detailed curriculum information. ○ **Notification:** Updates and important announcements regarding exams. ○ **Registration:** Information and forms for enrolling in training programs. ○ **Results:** Access to exam results for participants. ○ **Downloads:** Essential documents and resources related to the training.
User Screen:	

5.19 Requirement ID: FR-5(META)

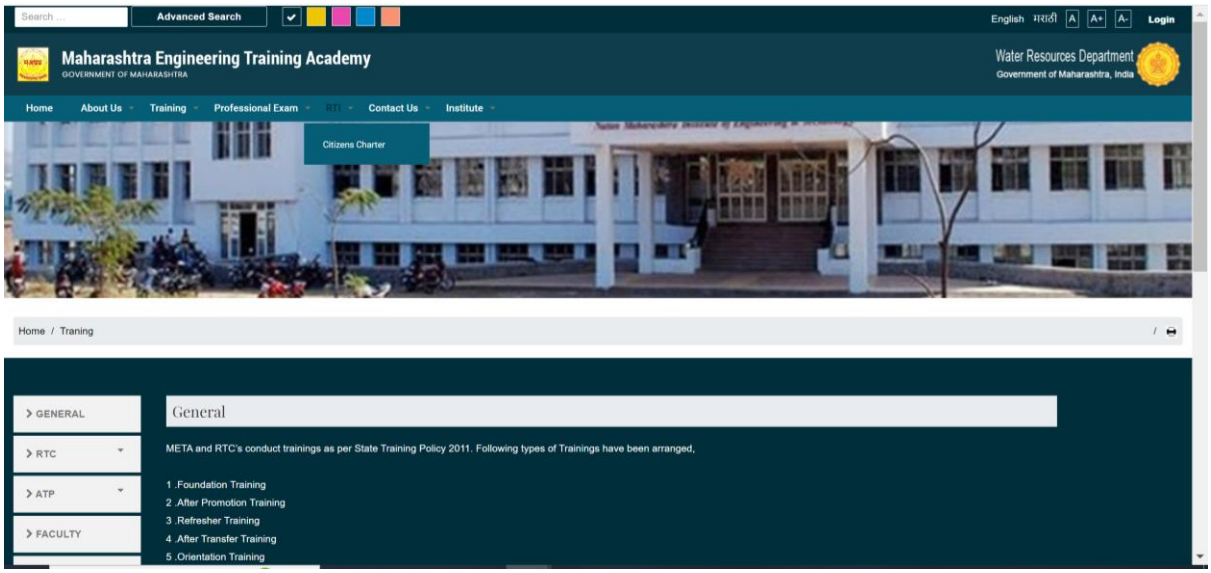
Requirement Name: RTI

Requirement Description: RTI menu is provided under the main Menu Bar of the Home Page. The respective tab will show the data related to the RTI 'S of the META. This

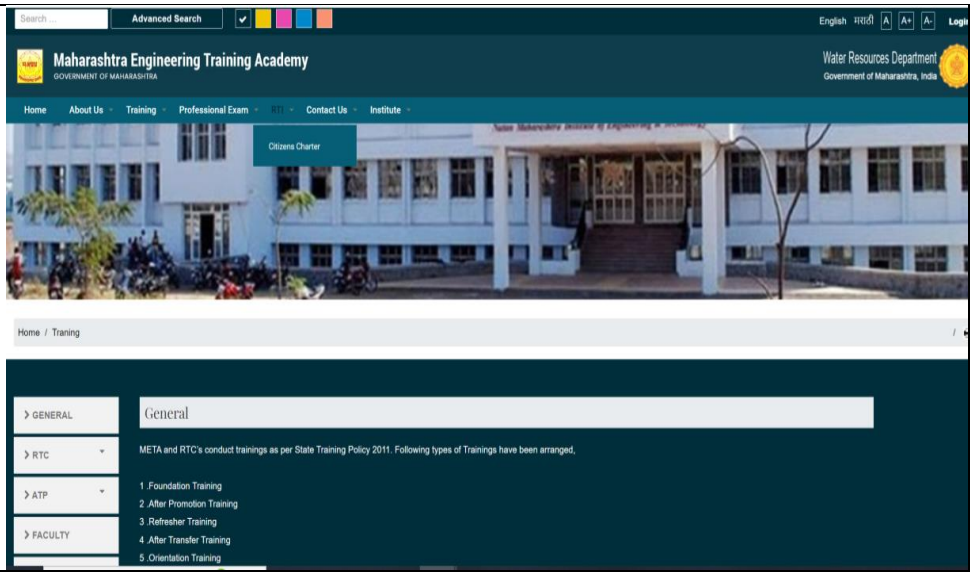
module will help Department in publishing its completed and ongoing RTI on the website. This module will have following features:

This will consist of Different Citizens.

User Screen:



Requirement Name	RTI
Requirement Description:	RTI menu will be a content, Page.
Primary Actor:	The META Administrator will manage RTI Content.
Precondition : Success Guarantees:	
Main Success Scenario:	Screen Containing following Functionality. • RTI Act • RTI Officers Information • Proactive Disclosers
Business Module:	Business rules require that the META Administrator maintains updated RTI content in the CMS, ensuring menu accessibility, user permissions for content management, responsive design, and a feedback mechanism for users.

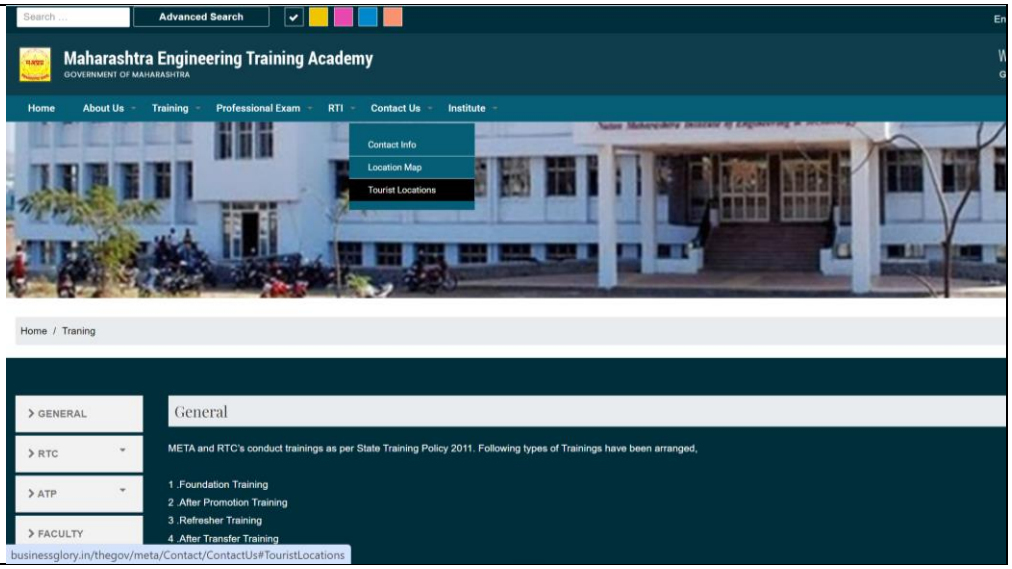
User Screen	

5.20 Requirement ID: FR-6(META)

Requirement Name: contact us

Requirement Description: contact us menu would be provided under the main Menu Bar of the Home Page. The respective tab will show the information of Details of organization and training academy. from those some of the sub menus were handled through CMS & some of the modules will work dynamically.

Requirement Name:	contact us
Requirement Description	The menu for Contact Us would be provided under the main Menu Bar of the Home Page accompanied. This will help the department to give the detail about contact details of The Maharashtra Engineering Training Academy (META)
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator.
Trigger	The trigger for the Contact Us module activation occurs when the site administrator publishes approved content in the CMS and integrates the "Contact Us" menu item into the main menu bar.
Main Success Scenario:	Screen Containing following Functionality. • Contact Info • Tourist Locations
Business Module:	the site administrator must keep the contact information updated, ensure menu accessibility, manage user permissions for content editing, maintain responsive design, and implement a feedback mechanism for users.

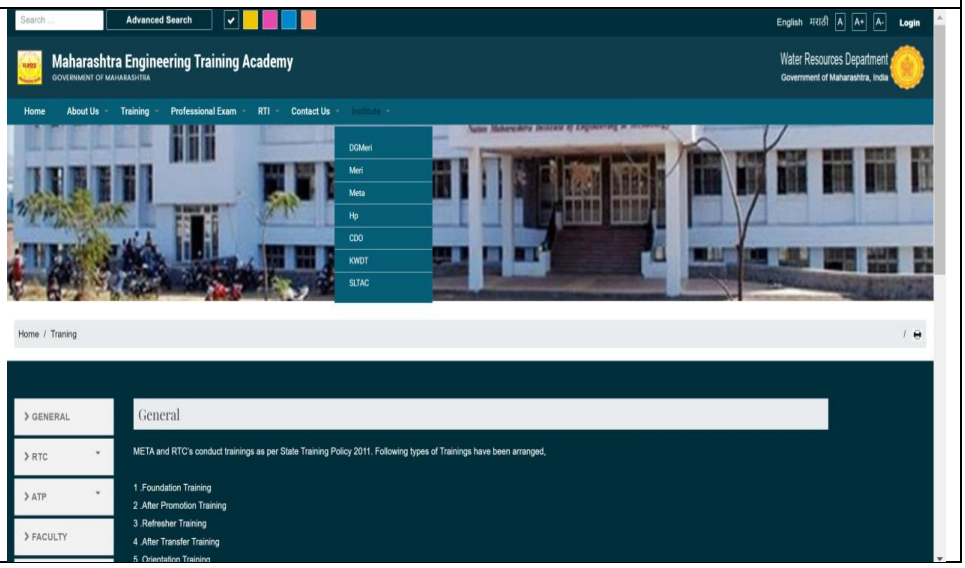
User Screen:	

5.21 Requirement ID: FR-7(META)

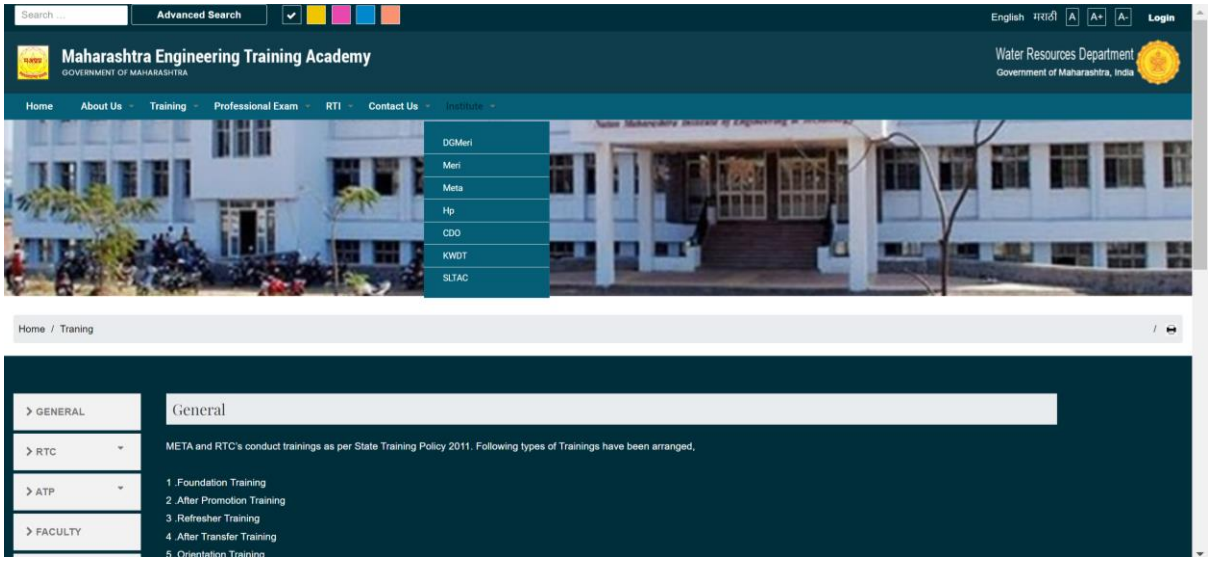
Requirement Name: Institute

Requirement Description: This module will consist of all the details of the Institute linked up with this page, so general user or trainee can access the details . with the help of function of hover over the menu bar, will eligible to get the further details of the Institutes on the web page.

Requirement Name	Institute
Requirement Description	This module will consist of all the details of the Institute linked up with this page
Primary Actors	general user or trainee can access the details
Trigger	The trigger for the Institute module activation occurs when the approved content is published and the "Institute" menu item is integrated into the main menu bar.
Main Success Scenario:	Screen Containing following Functionality. • MERI • META • CEHP • KWDT • CDO • SLTAC

Trigger	The trigger for activating the Institute module occurs when the approved content is published and the "Institute" menu item is integrated into the main menu bar.
Business Module	Contain the institute hyperlink to jump on particular institute
User Screen	

5.22 User Screen:



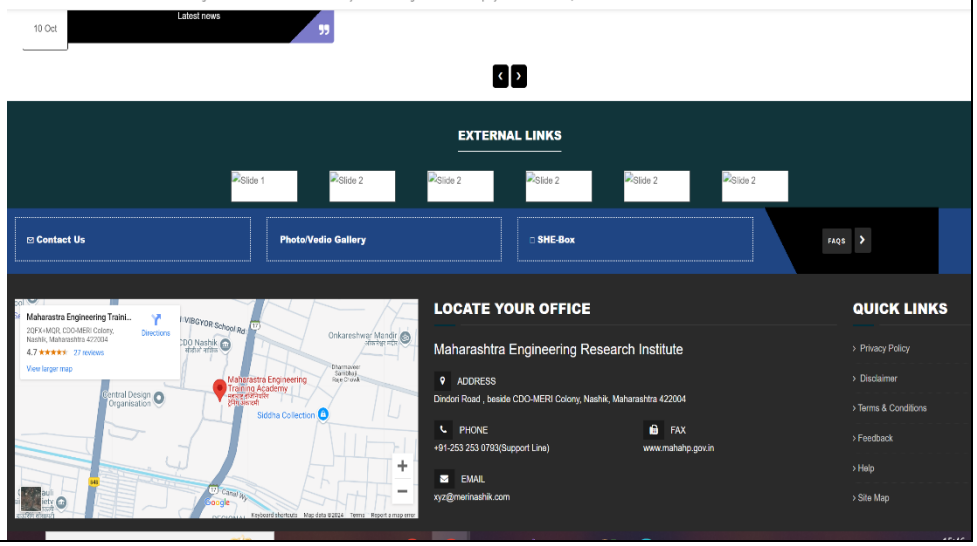
5.23 Requirement ID -FR-8 (META)

Requirement Name: Media Gallery

• **Requirement Description:** Content comes from the Video/Photo management Module. We will develop an advanced Media gallery module to allow website team to publish best quality photos/videos on the website. Some of the unique features of Media gallery module will be:

- o Will allow uploading of Image/Video Name, Image/Video, Image/Video Description and META tags for each image/Video.

o Will have facility to view/add/edit/delete Images/Video in JPEG, GIF, PNG and FLV format.
o Will allow review, editing and publishing layers to ensure correctness of the content.

Requirement Name	Media Gallery
Requirement Description	Content comes from the Video/Photo management Module
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator.
Trigger	The trigger for the Media Gallery activation occurs when the development is complete, tested, and approved for use by the website team.
Business Module	that content uploaded to the Media Gallery by the administrative with the high-quality, regularly reviewed for accuracy, formats must be supported, and a clear process for content management (add/edit/delete) must be established.
User Screen	

5.24 Back End Requirement

Super Administrator Super Administrator can define the user account for the Delegated Admin (Content Creator, Content Reviewer and Content Approver).

He will be able to create the roles according to the accessibility privilege granted to the Delegated Admin.

Besides this Super Administrator will possess the entire authentication accessibility to upload /publish/edit/delete the content on the META website.

Super admin will have full control on all content and files of each institute's website.

Role based Task Assignment Model the Super Administrator can Create/ Edit / Delete Roles and assign to the specific user according to their responsibilities.

Admin user will have full control on all content and files in each linked Institutes website. Role: Super Admin can create the user and give access to the following modules:

1) User Manager

2) Content Manager 3

3) Banner Manager

4) Media Manager

5) Related Links

6) Latest News/Events/Notifications Manager

7) Tenders

8) Department Information Desk Manager

9) Feedbacks

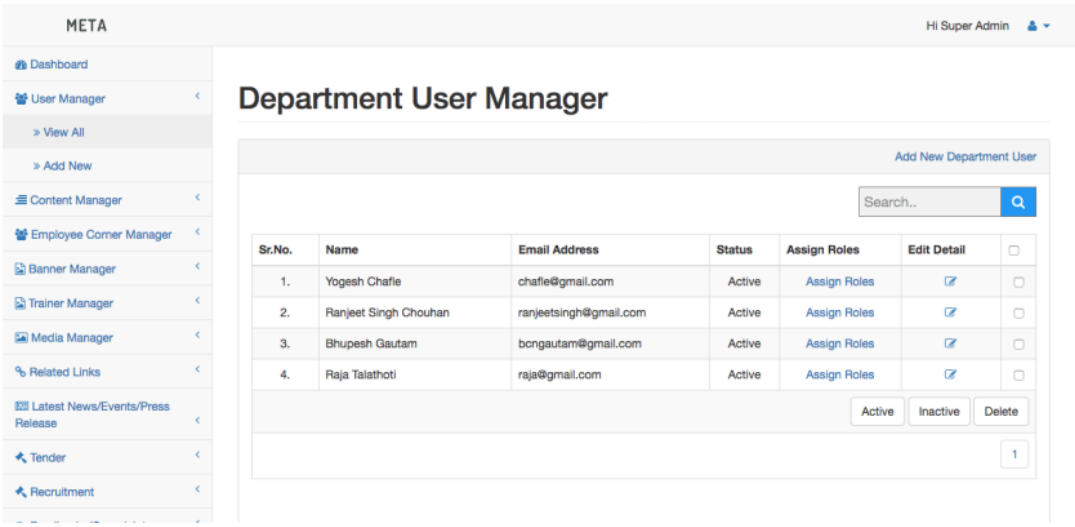
10) Archives

11) Audit Trai

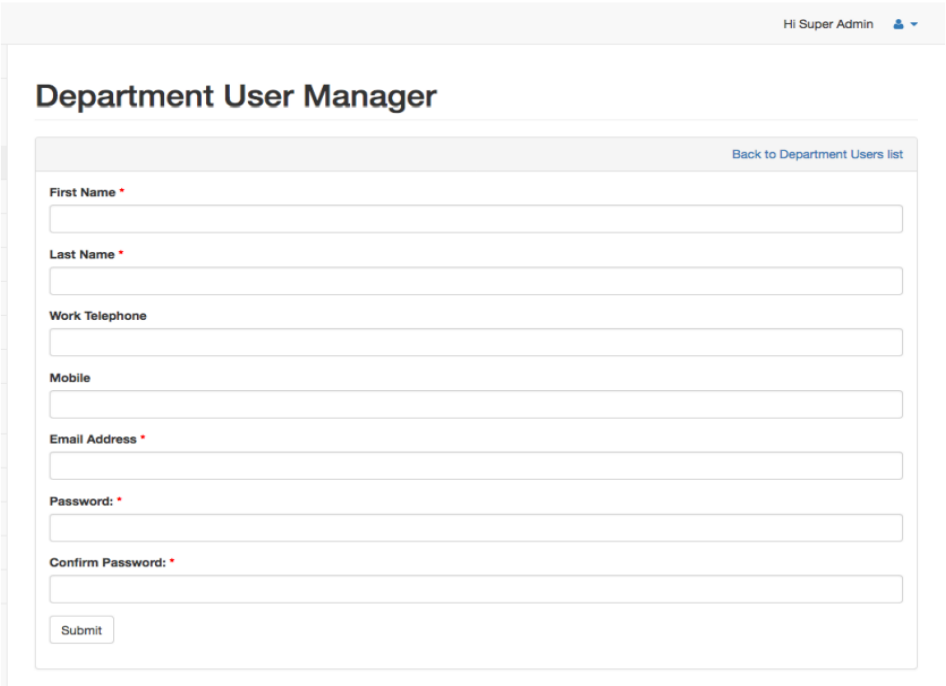
5.25 User Manager

User List

User List

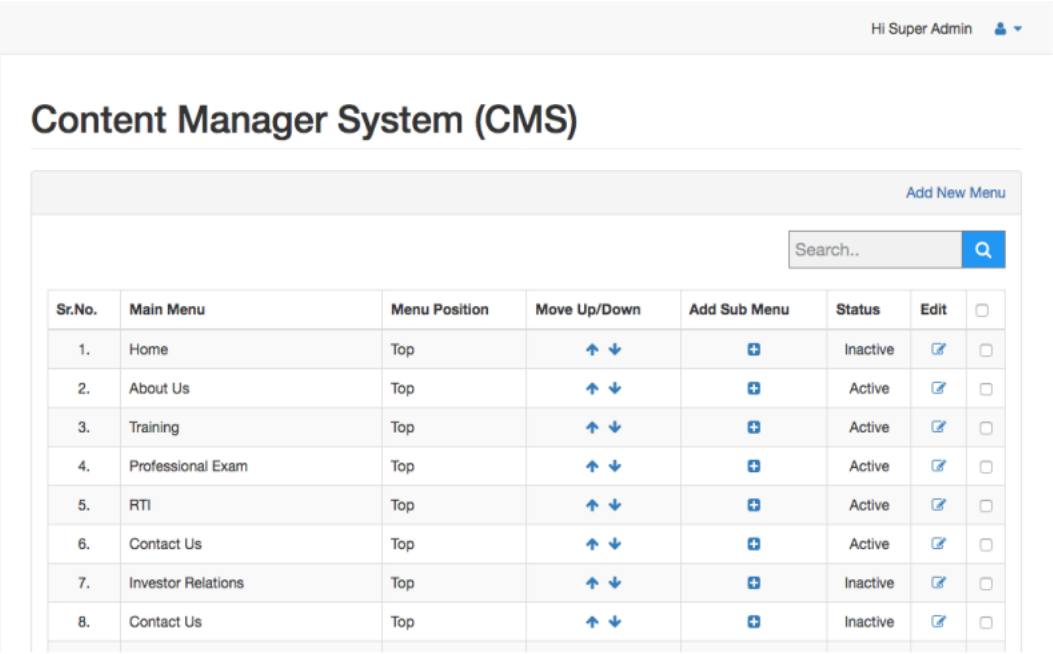


User Detail



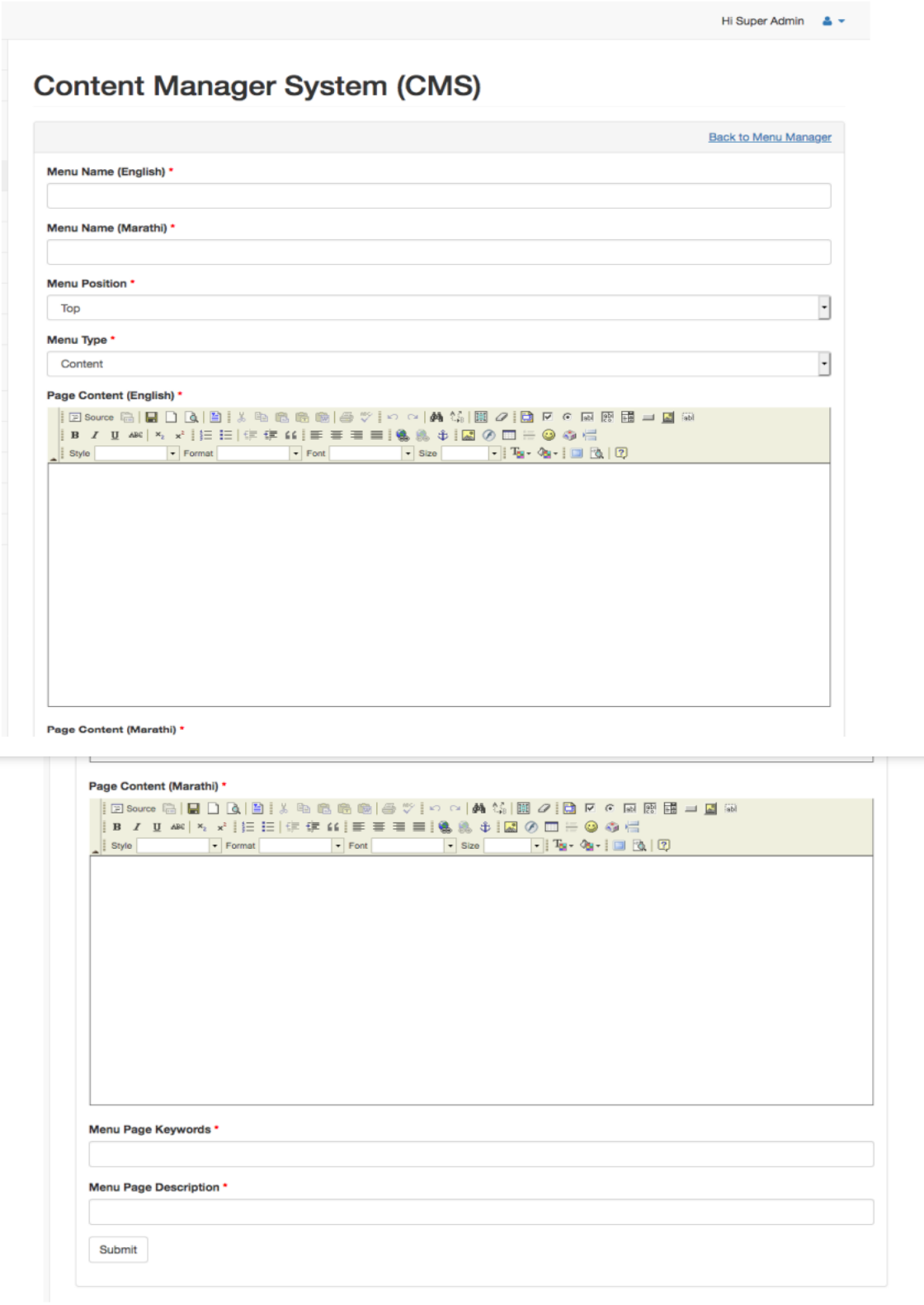
5.26 Content Manager

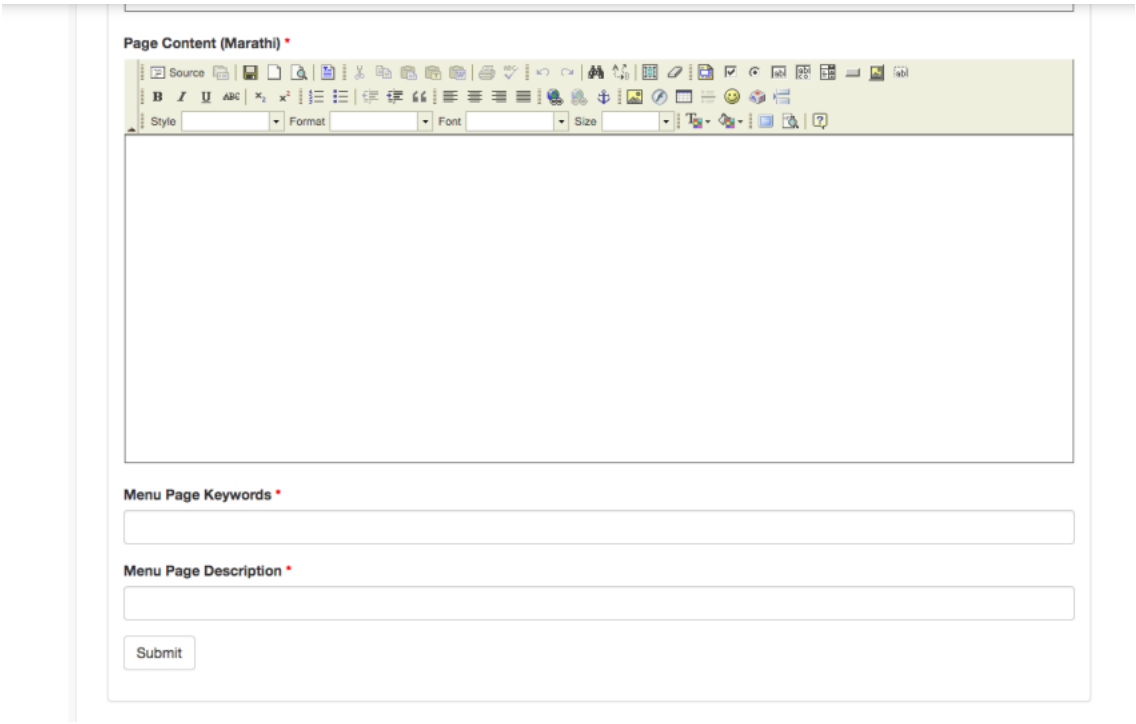
Content List

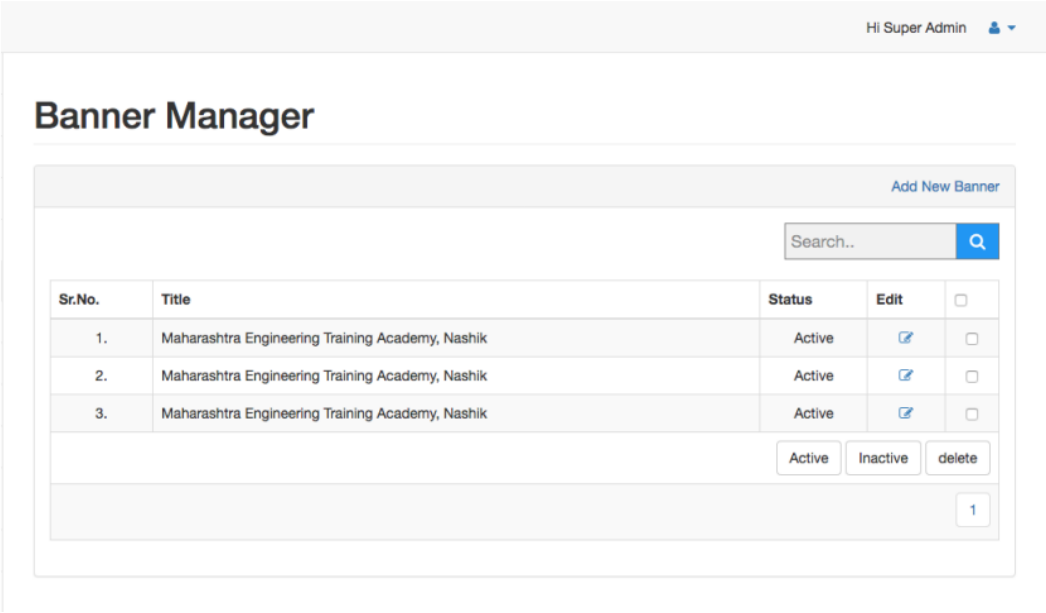


Sr.No.	Main Menu	Menu Position	Move Up/Down	Add Sub Menu	Status	Edit
1.	Home	Top			Inactive	
2.	About Us	Top			Active	
3.	Training	Top			Active	
4.	Professional Exam	Top			Active	
5.	RTI	Top			Active	
6.	Contact Us	Top			Active	
7.	Investor Relations	Top			Inactive	
8.	Contact Us	Top			Inactive	

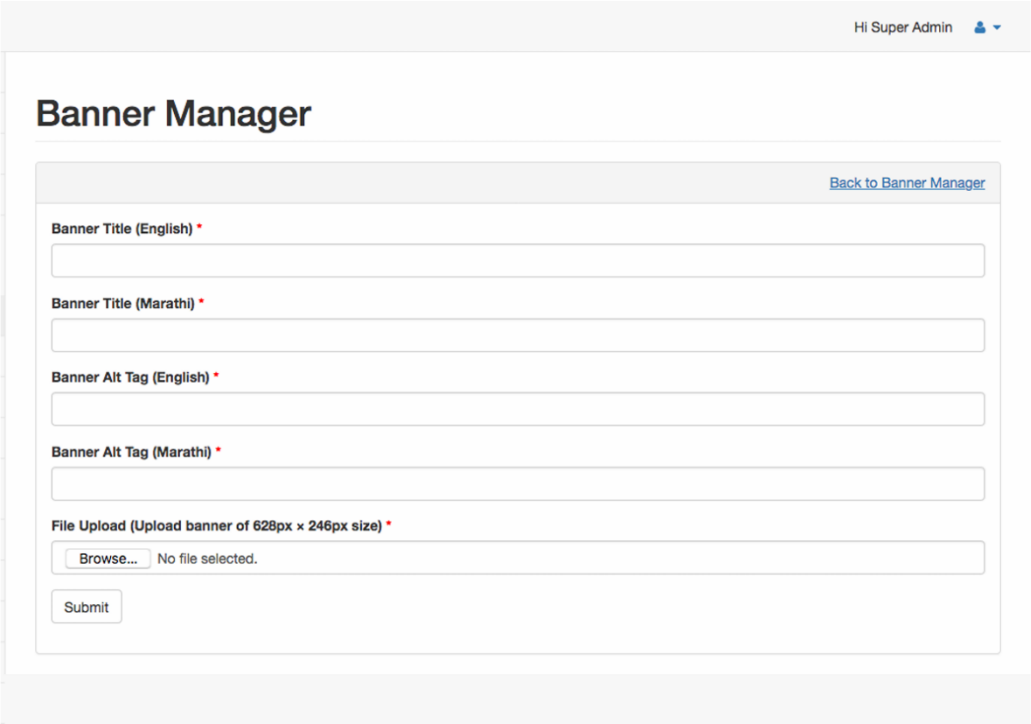
Content Details:







5.27 Banner Detail



Registered Members Manager

5.28 Media Manager

Photo Category (Album) Manager

Photo Category (Album) Manager

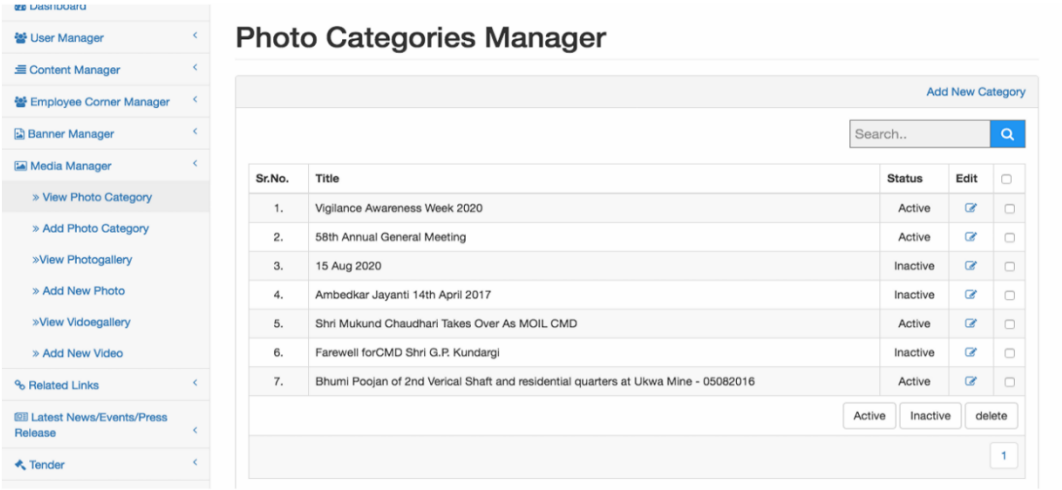


Photo Category (Album) Detail Manager

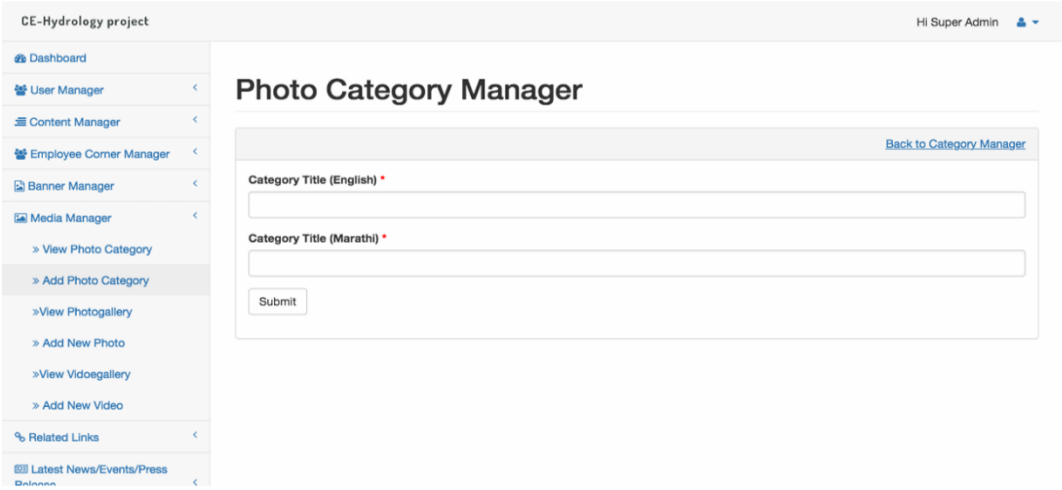
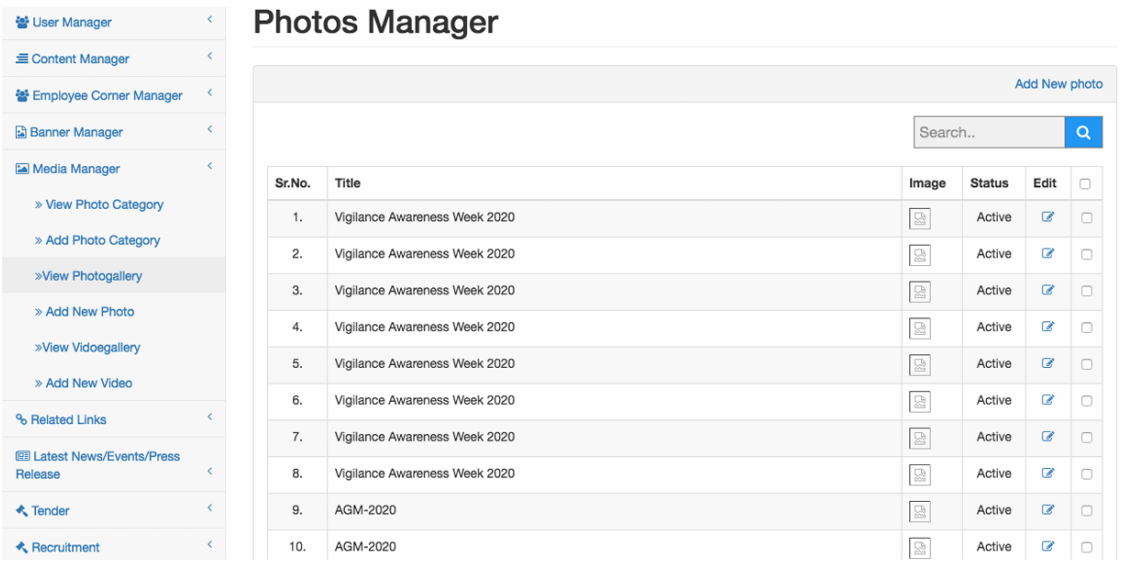
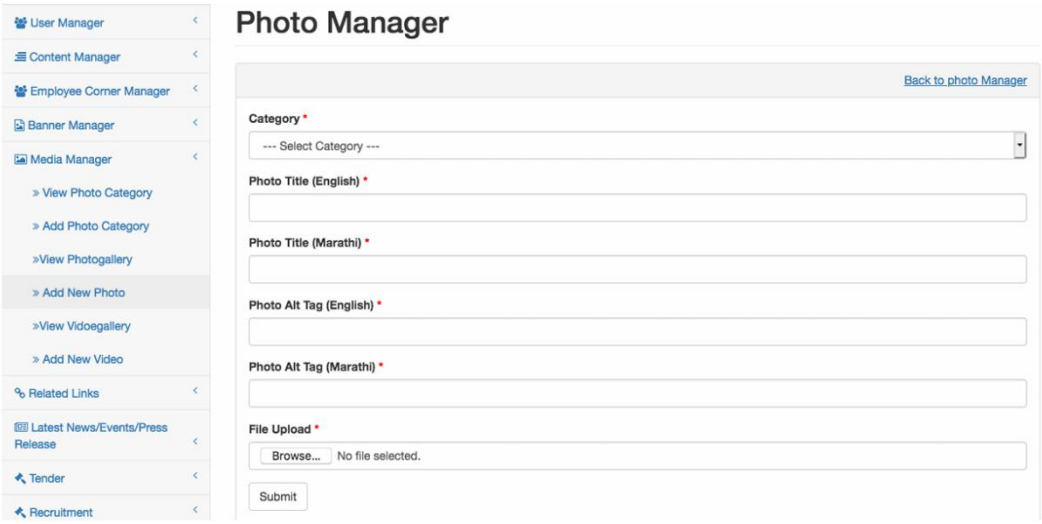


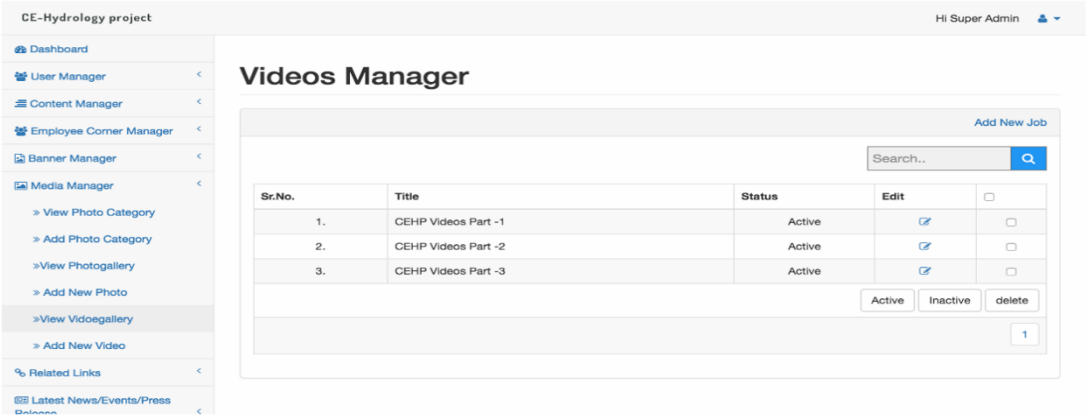
Photo Manager



5.29 Photo Detail Manager

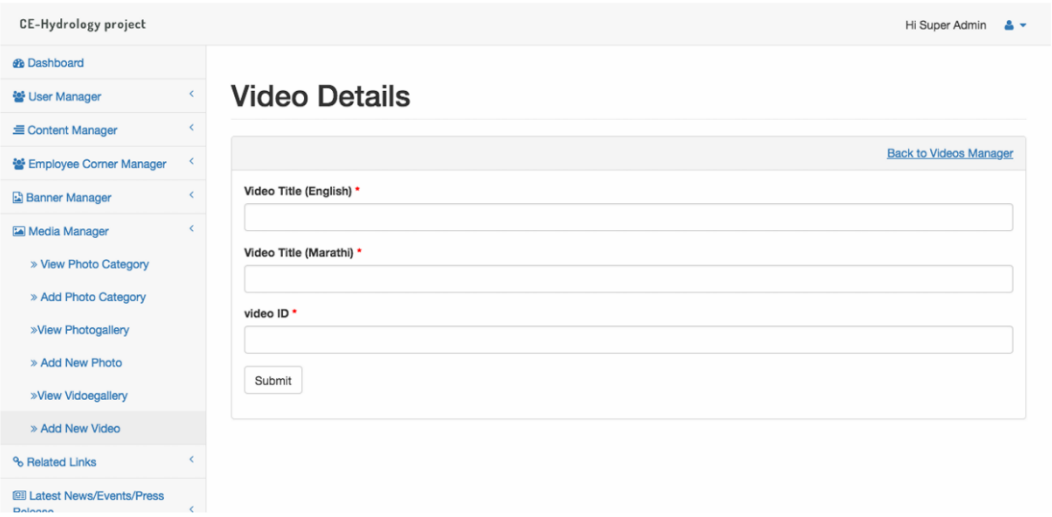


Video Manager



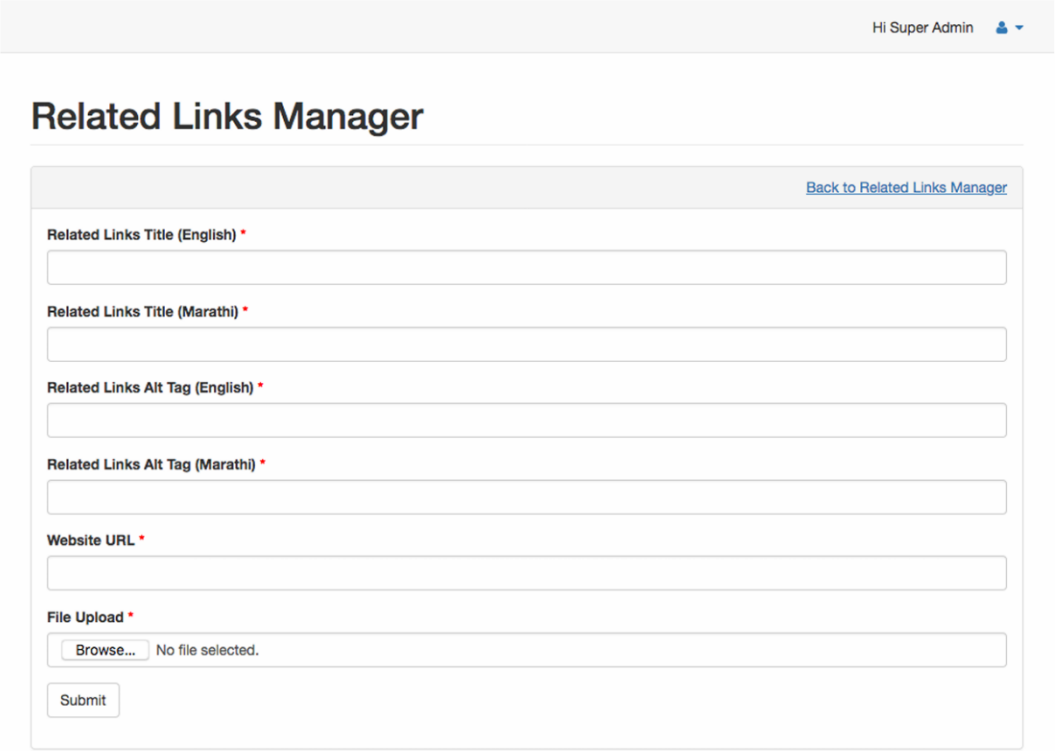
5.30 Video Detail Manager

Video Detail Manager

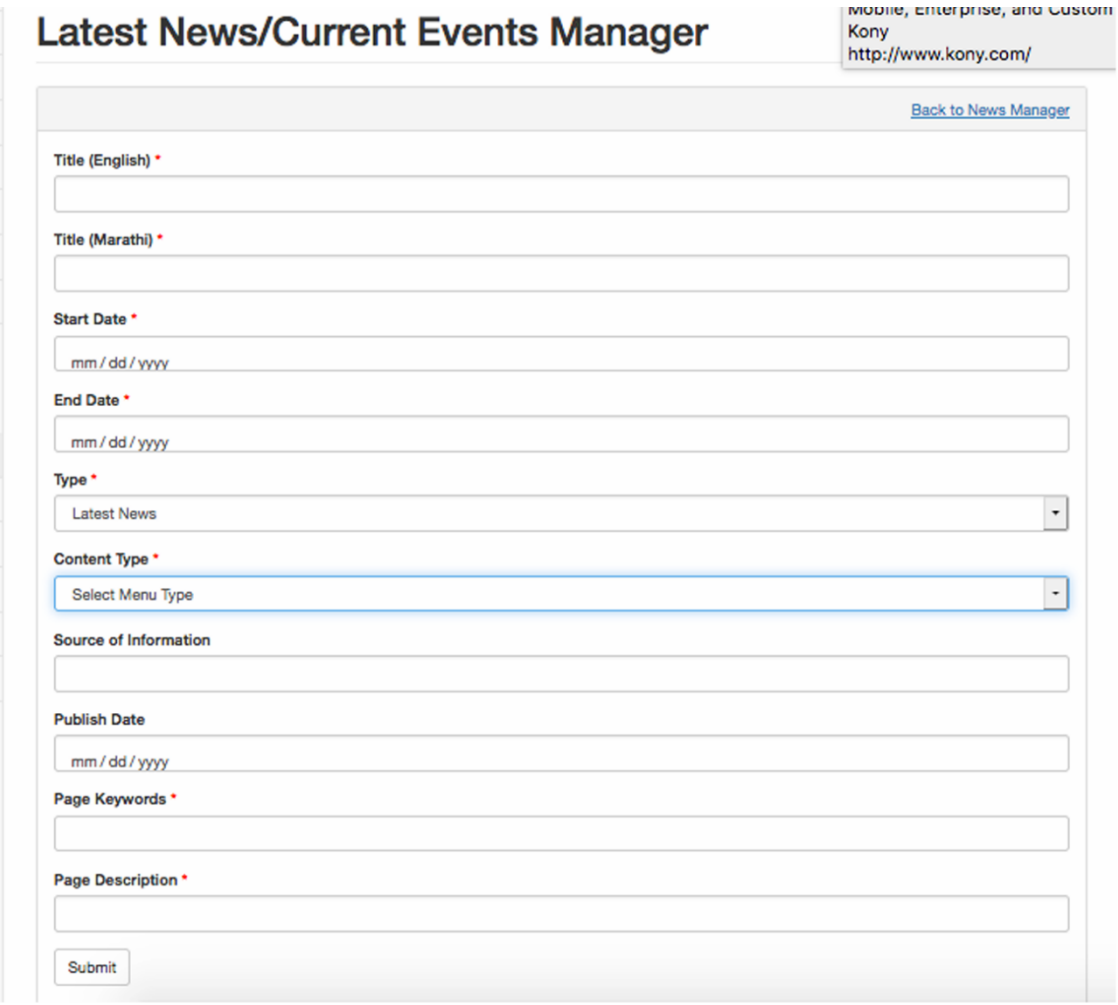


Related Links

Related Links Detail



5.31 Latest News/Events/Notifications Manager News/Events/Notifications Detail



5.32 Tenders Manager Tender Detail

Tender Details

Back to Tender Manager

Tender Ref. No. *

Tender Title (English) *

Tender Title (Marathi)

Tender Description (English) *

Tender Description (Marathi)

Tender Cost(In Rs.) *

Earnest Money (In Rs) *

Publish Date *

mm / dd / yyyy

Last Date of Submission *

mm / dd / yyyy

Tender Technical Opening Date *

mm / dd / yyyy

Financial Opening Date *

mm / dd / yyyy

Primary Contact Person *

Select Any

Start Date *

mm / dd / yyyy

End Date *

mm / dd / yyyy

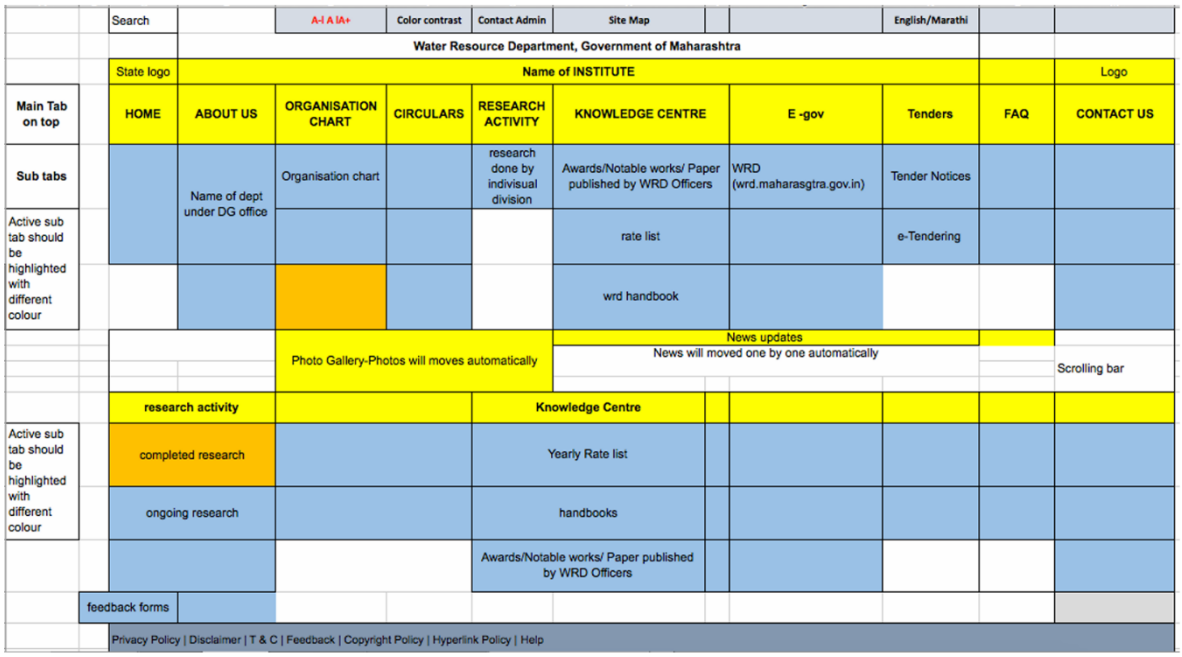
Submit

5.33 Data Design

General Requirement

Sr. No.	General Requirements
1	Website should be compiled with all GIGW & W3C guidelines
2	bilingual- Marathi & English and also easy operating for handicapped
3	Easy upload option for admin
4	Main tab & Sub Tabs can be added in portal by superadmin
5	in main page main tab having sub tab gave dropdown to view content.
6	Details of overall layout is as per given in this workbook.
7	Font english as per website india.gov.in and marathi as per maharashtra.gov.in
8	in any prob regarding site closing or maintaince inform the admin by phone notification.
9	On each web page Sub Tabs should be displaed on left side. Detailes of clicked sub tab should shown in center.
10	Number of rows in any (system made) table shoud be restricted to 10 rows and provide "Previous or Next Page" tabs at Top & Bottom
11	In Table uploading of data should come in row as per uploaded sequence in all table except any perticular instruction.(Latest uploaded document should come first in table)
12	As mentioned provide seprate login ids for uploading data in system.
13	Date filter should be - "From Date" to "To Date"
14	All web pages should have print option on top of page on right side.
15	All web pages should have " top button" on right side at bottom of page and " bottom button" on top of page on right side. So that user can easily go to top of page and bottom of page.

Sub Tabs



Main Page Tab

	Search		A-I A IA+	Color contrast	Contact Admin	Site Map			English/Marathi		
		Water Resource Department, Government of Maharashtra									
	State logo	Name of INSTITUTE									Logo
Main Tab on top	HOME	ABOUT US	ORGANISATION CHART	CIRCULARS	RESEARCH ACTIVITY	KNOWLEDGE CENTRE		E -gov	Tenders	FAQ	CONTACT US
Sub tabs		Name of dept under DG office	Organisation chart		research done by indivisual division	Awards/Notable works/ Paper published by WRD Officers		WRD (wrd.maharasgtra.gov.in)	Tender Notices		
Active sub tab should be highlighted with different colour						rate list			e-Tendering		
						wrd handbook					
			Photo Gallery-Photos will moves automatically			News updates News will moved one by one automatically					Scrolling bar
	research activity				Knowledge Centre						
Active sub tab should be highlighted with different colour	completed research				Yearly Rate list						
	ongoing research				handbooks						
					Awards/Notable works/ Paper published by WRD Officers						
	feedback forms										
	Privacy Policy | Disclaimer | T & C | Feedback | Copyright Policy | Hyperlink Policy | Help										

Details of Sub Tab

Details of sub tab					
Sr. No.	**Main Tab Name**	**Sub Tab**	**Details of tab**	**Information in web page**	**Format of information requried from**
1	**Home**		Main Web Page	1.Overall Information of department	
2	**About Us**	MERI	Web Page	1 page information containing general information of organisation.	Word file in English & Marathi Pdf file in English (in available) & Marathi
		CDO	Web Page	1 page information containing general information of organisation.	wordl file in English & Marathi
		META	Web Page	1 page information containing general information of organisation.	Word file in English & Marathi
		SLATC	Web Page	1 page information containing general information of organisation.	Word file in English & Marathi
		HP	Web Page	1 page information containing general information of organisation.	Word file in English & Marathi
		DIRD	Web Page	1 page information containing general information of organisation.	Word file in English & Marathi
3	**Organisation chart**		Web page	Designation, Name of office & Address, DG OFFice ,EE to Section Engineer	Word file in English
4	**Circulars**				
5	**Research Activity**	completed research	Web page+ table	list of completed research activity and division name	Word file in English
		ongoing research	Web page+ table	list of completed research activity and division name	Word file in English
		Note:- Only ten entries should display on a web page			
		Search		Print	
6	**Knowledge centre**	Rate list	sub tab should be given including division wise rate list	rate list of test carring out in various division	
		Note : Only 10 entries should display on web pages.			
		Search Filter		**Print**	
		Handbooks	**list of table**	**link given to each to open**	pdf
		Search Filter		**Print**	
		Letter box	**list**	**link provided to each**	pdf
				Print	
		Awards/Notable works/ Paper published by WRD Officers	Table	Paper published by Officers under MERI. And awards received	pdf
7	**E- GOV**	web link			
8	**FAQ**	web page		frequenly asked question	word file
9	**Tender**	Tender Notices	Table	The tender notices uploaded through CMS is displayed on this web page in following table format.	Pdf file of notices
		Details of web page of Tender Notices is as follows			
		Filter	By subject	By Date	Print option
		Sr. No.	**Subject**	**Download**	
		Note:- Only ten entries should display on a web page			
		E-Tendering	Web page link (External) https://mahatenders.gov.in	Link of Mahatender website is provided	
10	**Contact us**			details address of offices under meri with ph no. email id.	word file

Details of Active Tabs under Sub tabs (Sub Main Tabs on Top of Home Page)

Details of Active Tabs under Sub tabs (Sub Main Tabs on Top of Home Page)			
Sr. No.	Sub-Main Tab on Top	Sub Tab	details
1	Rate list	material testing refrral lab	scan orPDF copy to uplaod for update
		soil mechanics refrral lab	scan or PDF copy to uplaod for update
		Resouce Engineering centre	scan or PDF copy to uplaod for update
		highway researchdivision	scan or PDF copy to uplaod for update
2	Department and information desk	Director General	1) name,designation,Qualification date of birth languages known phone no work experience of office incharge incuding photo
		Superintending Engineer (MERI)	1) name,designation,Qualification date of birth languages known phone no. work experience of office incharge incuding photo
		Superintending Engineer (SLTAC)	1) name,designation,Qualification date of birth languages known phone no. work experience of office incharge incuding photo
		material testing refrral lab	1) name,designation,Qualification date of birth languages known phone no work experience of office incharge incuding photo
			2) list of personel working in division
			3) test to be carried out
			3) Activities
			4) Technical committee details
			5) special work
			6) photo gallary
		soil mechanics refrral lab	1) name,designation,Qualification date of birth languages known phone no work experience of office incharge
			2) list of personel working in division
			3) test to be carried out
			3) Activities
			4) Technical committee details
			5) special work
			6) photo gallary
		Resource Engineering Centre	1) name,designation,Qualification date of birth languages known phone no work experience of office incharge
			2) list of personel working in division
			3) work done by
			4) methodology
			5) completed project
			6) completed research paper
			7) Training
			8) Knowledge trasfer programme
			9) Special achievment
			10) photo gallary
		highway research division	1) name,designation,Qualification date of birth languages known phone no work experience of office incharge
			2) list of personel working in division
			3) Activities
			4) completed project
			5) ongoing project
			6)Research papers yearwise details
		Civil Works maintance division	1) name,designation,Qualification date of birth languages knownphone no work experience of office incharge
			2) organisation structure
			3) list of personel working in division
			4) Activities
			5) completed project
			6) ongoing project
			7)Research papers yearwise details
		General administarion	1) name,designation,Qualification date of birth languages known phone no work experience of office incharge
			2) list of personel working in division
			3) Activities
		State specific Action plan (SSAP)	1) name,designation,Qualification date of birth languages known phone no work experience of office incharge
			2) list of personel working in division
			3) Activities

6 CE- HP and Dam Safety Organization

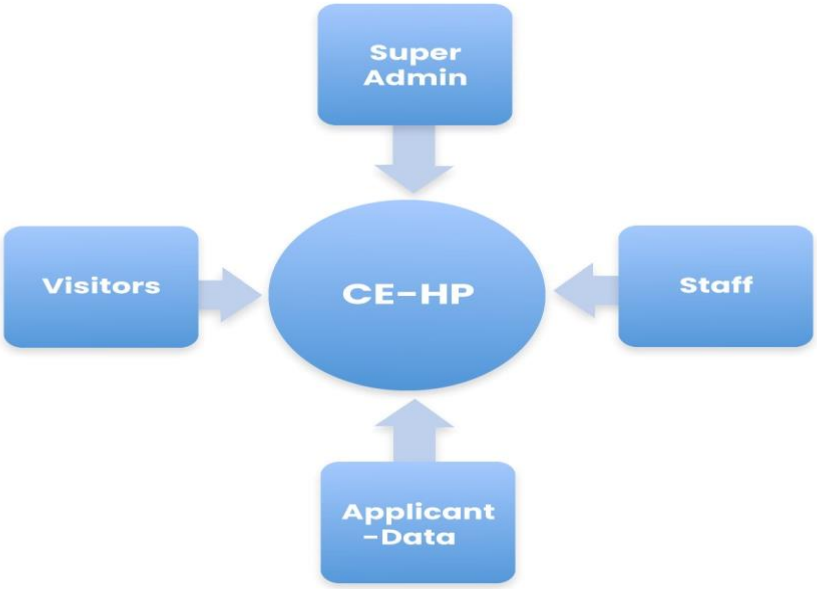
6.1 Introduction

CE-Hydrology Project & Dam Safety Organization, Nashik is taken up in November 1995 with the help of World Bank under credit No. 2774-IN. The prime objective is to develop sustainable Hydrological Information System (HIS) for the participating 13 States & 8 central agencies including Maharashtra state in India. The Hydrological Information System comprises hydro meteorological monitoring infrastructure and a set of easily accessible comprehensive and user-friendly database for data validation, processing, storage, dissemination etc.
The development of hydrological database supports major aspects of India's Water Policy particularly in allocation, planning and management of water resources. The information provided by the system is being tuned to the requirements of decision / policy makers, designers and researchers. It will be useful to take decision, to study the water resources for long term planning's or for design of water resource's structure.

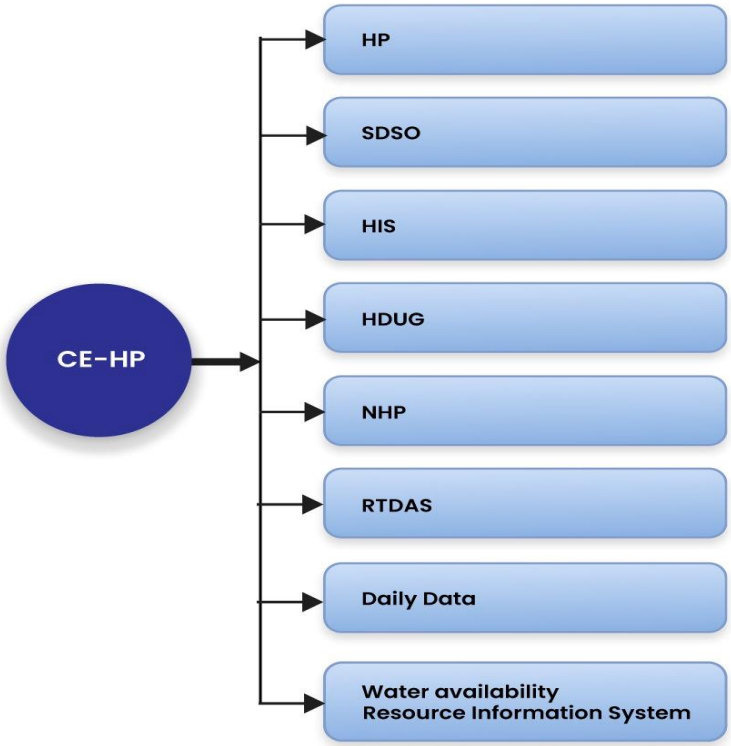
6.2 Business Context:

The CE-Hydrology Project & Dam Safety, launched in November 1995 with World Bank support, aims to establish a sustainable Hydrological Information System (HIS) for 13 states and 8 central agencies, including Maharashtra. This project focuses on developing robust hydro-meteorological monitoring infrastructure and a user-friendly database for comprehensive data management, including validation, processing, storage, and dissemination. By creating a reliable hydrological database, the project supports India's Water Policy, enhancing the allocation, planning, and management of water resources. The HIS provides tailored information to decision-makers, policymakers, designers, and researchers, facilitating informed choices for water resource management and infrastructure design. Ultimately, this initiative strengthens sustainable practices in hydrology, benefiting both the participating states and national policies related to water management and environmental sustainability.

6.2.1 Application Visitors

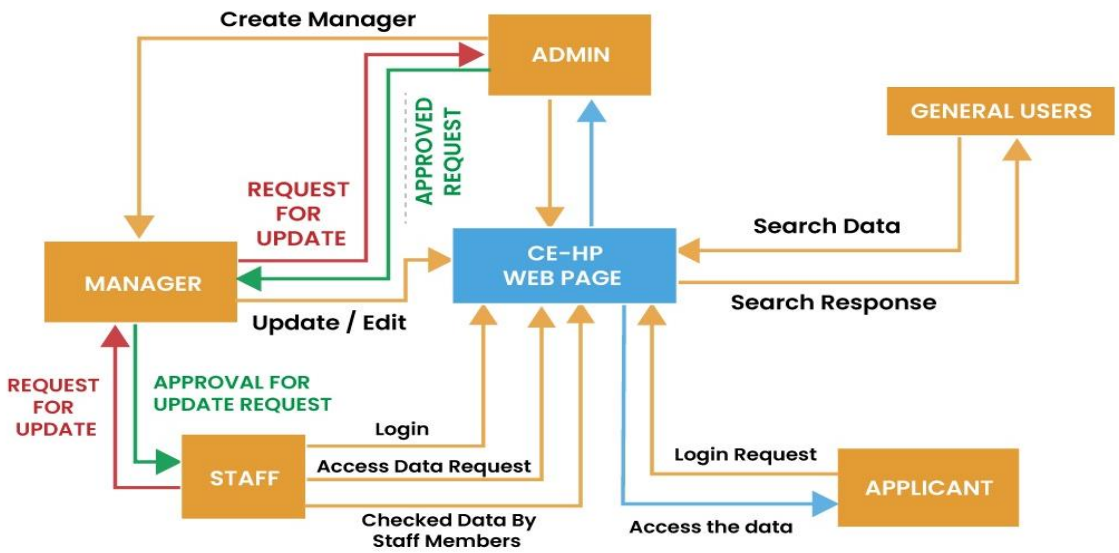


6.3 Application Architecture:



6.4 Solution Diagram:

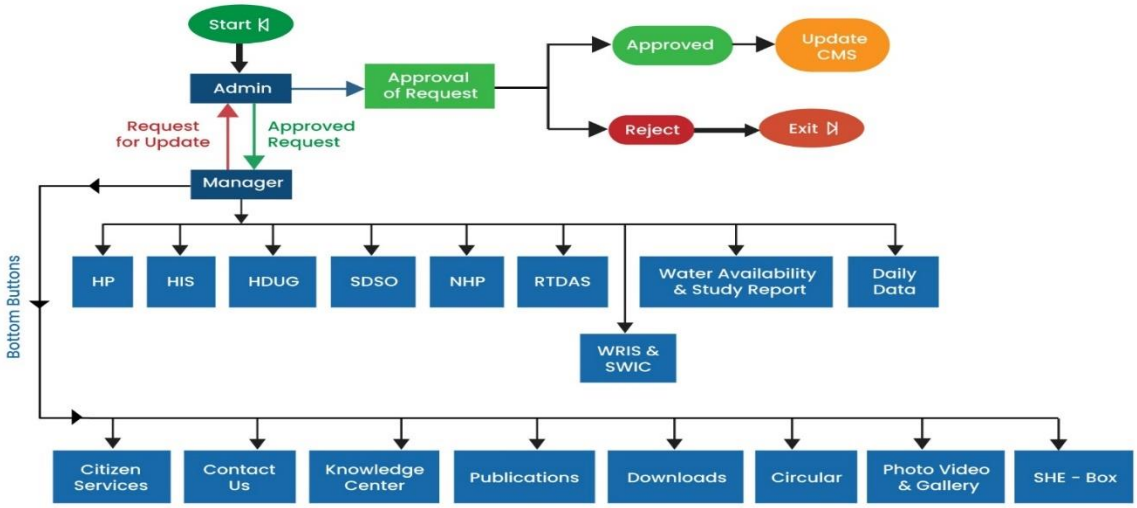
Overall Flow Of CE-HP :



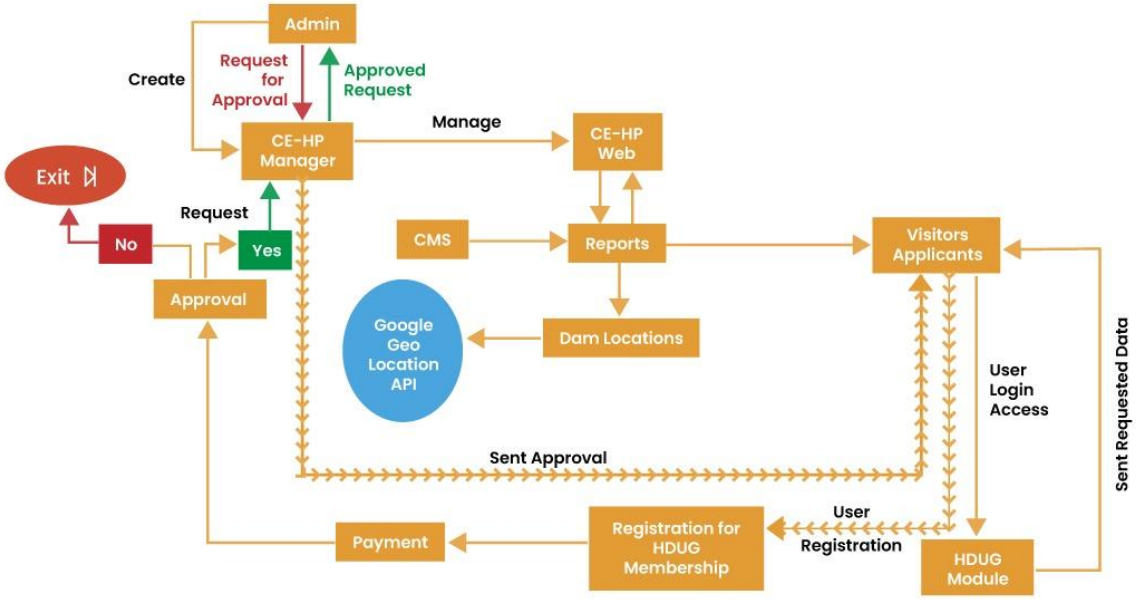
6.5 Business Process Flow

This high-level explanation provides clarity on the roles, data flow, and processes involved in the system, which can then be broken down further into more detailed diagrams or business processes based on your software requirements.

Business Flow of CEHP



DFD – 2



High-Level Components :

1. **CE-HP Manager**:
2. **Admin**:
3. **Visitors**:
4. **Google Geo Location API**:
5. **HDUG Module**:
6. **CMS (Content Management System)**:

Flow of Data:

1. **Request Creation**:
   - The process begins when a **Visitor Applicant** creates a request.
2. **Request for Approval**:
   - The request is sent to the **CE-HP Manager**, which forwards it to the **Admin** for approval.
3. **Approval Decision**:
   - If the request is rejected, the process terminates, and the user exits.

- If the request is approved, the **Admin** sends the approved request back to the **CE-HP Manager**.

4. **Managing Approved Requests**:
   - Once approved, the **CE-HP Manager** manages the request and interacts with different components:
     - **CMS**: Handles content management, including reports and dam locations.
     - **CE-HP Web**: Offers web-based reports and manages dam location data.
5. **User Registration and Access**:
   - Users go through the **HDUG Module** for registration.
   - After registering, the **HDUG Module** communicates with the **Visitors Applicants** system to give users login access.
   - Once users log in, the system sends the requested data back to the **Visitors Applicants**.
6. **Google Geo Location API Integration**:
   - The **Google Geo Location API** provides location-related data for dams, enhancing the system's ability to manage geographical information effectively.
7. **Payment Process**:
   - The **Payment** component is linked to the process, likely for handling transactions related to requests or registrations.

6.6 Key Stakeholders and Roles:

a) **Admin User:** The user role will be assigned by the super admin. This user can manage modules as per permission given by super admin.

b) **General Visitors:** General visitors are the one who will visit the website in quest of information disseminated by the META in public interest.

c) **Staff:** Staff members are internal users responsible for executing the day-to-day operations and maintaining the functionality of various systems within the organization. They will be assigned specific roles and permissions by the admin to manage modules relevant to their duties, such as handling queries, managing documents, coordinating with other stakeholders, and ensuring smooth workflows across department.

6.7 System Architecture

6.8 A. Hierarchical Model Structure:

The hierarchical model can be split into **three main layers**:

- **Application Logic Layer**
- **User Interface Layer**
- **Server/ cloud API Layer.**
- **Data Storage Layer**

Each layer will have specific responsibilities and roles, as described below.

B. User Interface Layer (Presentation Layer)

This layer handles **user interactions**. It includes various user roles that interact with the system based on the permissions assigned to them.

Users:

1. **Application Layer**:
    - Highest level of access and all content of web of META which Leads by content- Managers
2. **Admin**
    - Handles tasks like managing data, assign the role of manger for each content within the boundaries set by the Admin.
3. **Staff**
    - Focuses on validating, checking, and updating data for internal use.
4. **General Users**
    - Public-facing role, primarily to search and retrieve data from the system.

C. **Cloud Server (API) Layer**

- **API Gateway**:
    - Acts as a bridge between the web application and the data storage.
    - Manages requests and responses between the application and the database.
    - Ensures security, scalability, and performance optimization.
- **Functions**:
    - Request Validation
    - Data Security and Encryption

- Load Balancing for high availability
- Handling external data sources (if integrated with external services)

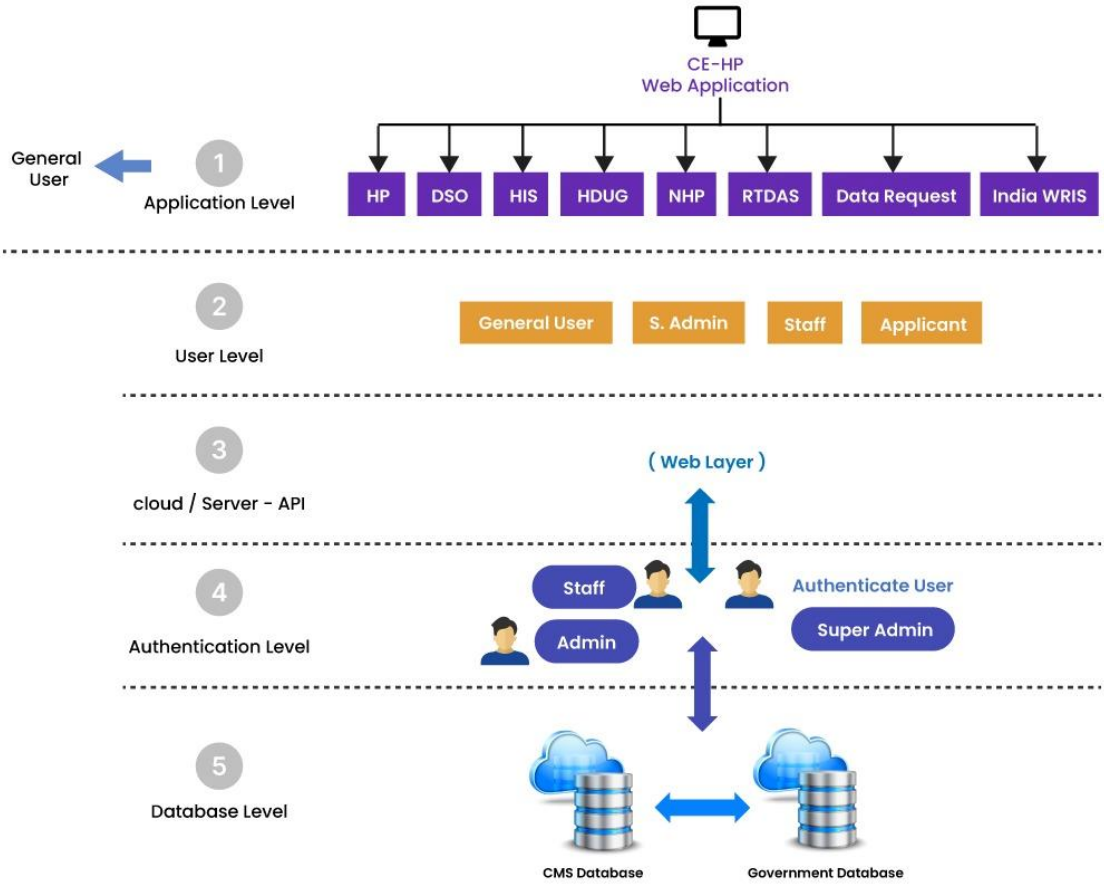
D. Data Storage Layer (Database Layer)

This layer is responsible for **data storage** and managing the interaction between the application and the stored data.

Data Storage Components:

1. **Database (Central Data Repository)**
    - Stores all data, including:
        - User information and permissions
        - Records for reporting, updates, and data checks
        - Data accessed by General Users
    - Provides the necessary data based on requests from the web application.
2. **Data Access and Management**
    - Controlled by the web application.
    - Only specific roles (Super Admins, Admins, Staff) can add, modify, or delete data.
    - General Users can search and view data, but cannot modify it.

6.9 Hierarchical Model



system architecture overview for a CE-HP web application

1. Application Level:

- At the **Application Level**, the general user interacts with the **CE-HP Web Application**. This web application seems to include several modules, each responsible for different functionalities:
    - **HP**: Possibly a module related to high-priority tasks.
    - **DSO**: Likely dealing with some form of data storage or data service operations.
    - **HIS**: Could refer to Health Information Systems or a specific integrated system.
    - **HDUG**: Likely represents the HDUG membership module.

- **NHP**, **RTDAS**, **Data Request**, **India WRIS**: These modules are possibly related to national programs, data request services, and geographic information systems like India WRIS.

The user initiates requests or actions through these modules, depending on their needs.

2. User Level:

- At this level, the **Web Application** interacts with different types of users:
  - **General User**: These users have basic access to the application, likely for general purposes like data viewing or requesting services.
  - **Staff**: Internal users of the system who handle various operational tasks.
  - **Applicant**: External users who apply for specific services or access within the application.

3. Cloud/Server - API (Web Layer):

- This layer represents the **cloud or server API** level, which acts as an intermediary between the application and the backend services.
- The **web layer** ensures that the user interactions on the front end (user and application level) are translated into requests that the server can process.

4. Authentication Level:

- In the **Authentication Level**, users such as **Staff**, **Admin** are authenticated to ensure secure access to the system.
  - **Staff** and **Admin** have access to perform specific roles and actions in the application based on their credentials.

    This layer ensures the system is secure by verifying the identity of each user before granting access.

5. Database Level:

- At the **Database Level**, two main databases are involved:
  - **CMS Database**: Likely stores content management data, such as user information, request records, or reports.
  - **Government Database**: This could store critical governmental or public-sector-related data, possibly sensitive information related to dam locations or other services integrated with government systems.

6.10 Stakeholder's suggestion

This document is primarily intended for CE-HP Officials, & the user. to understand the functionality of department. The various audience targeted in

the document are – CE-HP Official users, developers, designers, testers, business development team and project managers.

6.11 Overall Description

6.11.1 Product perspective

From the Product Perspective, the system is a website application that would be used to disseminate the information to the general public whereby managing the content from the CMS (open-source application).

6.11.2 Product Functions

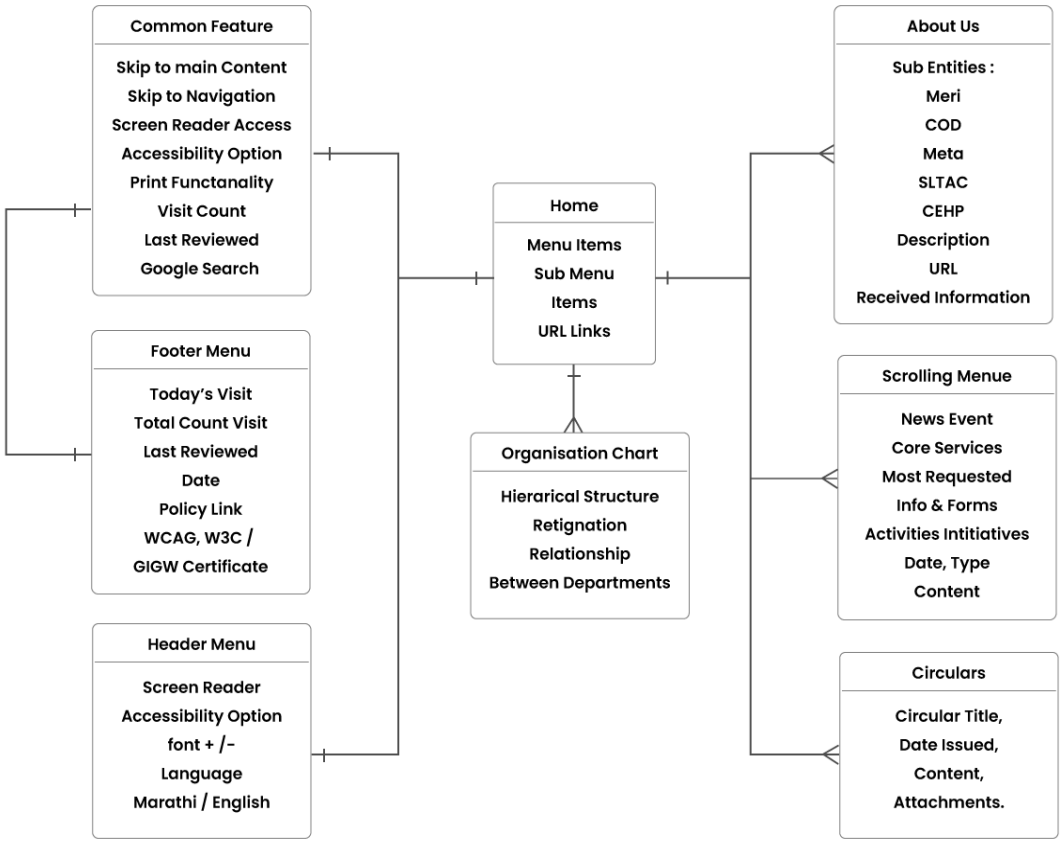
Product Function as a Website Application. The function of the website application has been identified on the basis of following parameters: - Managing the Content of the Website. - Specific functional features complying with GIGW Guidelines.

6.12 Navigation Structure

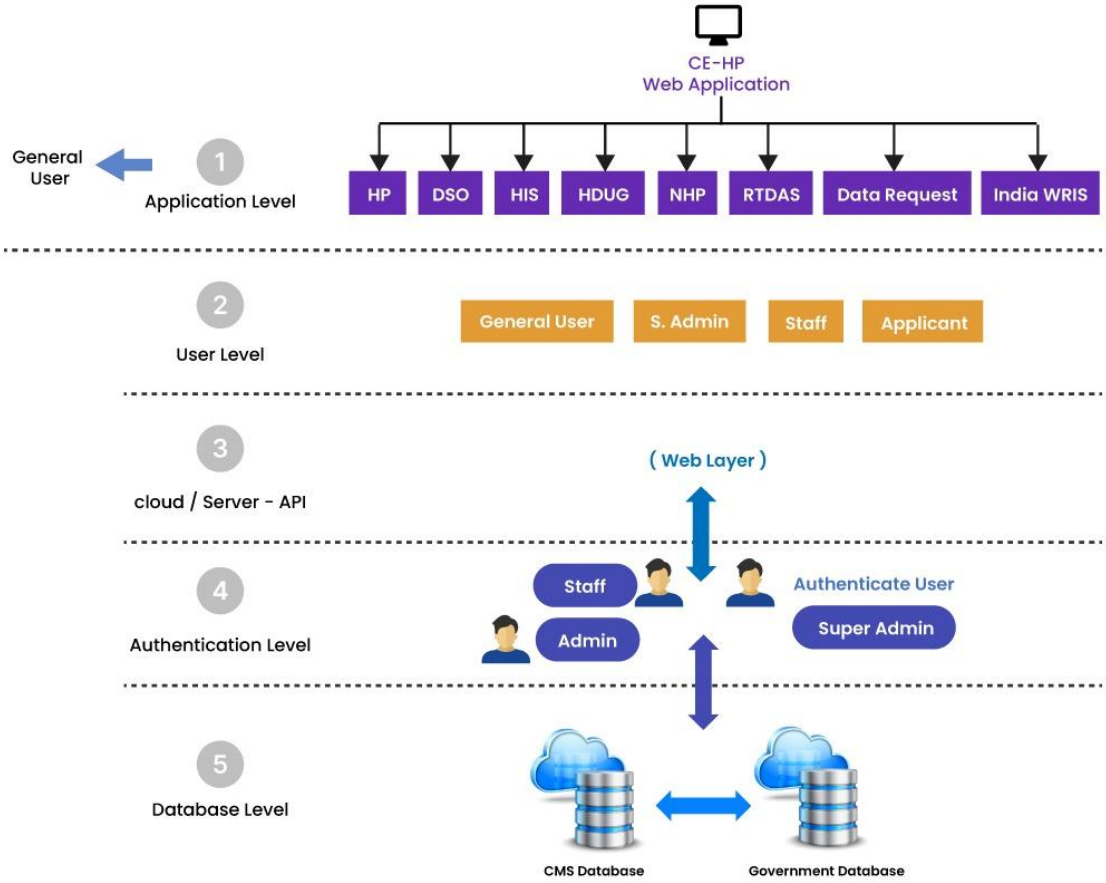
S. No.	Tabs/Links	Module	Menu Location
1.	Common Features • Skip to Main Content • Skip to Navigation • Screen Reader Access [CMS Page] • Accessibility options [Dynamic Page] o Font +/- [Functionality] o Color option [Functionality] Print [Functionality] • Todays Visit Count, Total visit Count, Date of last reviewed [Dynamic Page] • Search within site [Search Website With Google Customized Search] • Site Map • Marathi/English Version of each webpage	Dynamic + CMS	Common Features
2.	Home	Dynamic	Main Menu
3.	HP General information Objective of HP Work profile of HP Organization chart of HP	Content (CMS)	Main Menu
4.	• DSO • About DSO • Health Status Report • Region wise Dam details • Standard dam safety guidleines • NCDS documents • Dam inspection mobile application	Content (CMS)	Main Menu

	• DIRP • Payment gateways		
5.	• HIS • HIS Structure • HIS Network • Basin maps	Content (CMS)	Main Menu
8.	• HDUG • Introduction • Eligibility criteria • Hdug cells • Hdug List • Membership • Payment Information	Content (CMS)	Main menu
9.	NHP Background Aims & objecties Roles of HP NHP Management	Content (CMS)	Main menu
10.	RTDAS Breief of RTDAS Krishna bhima RTDAS Proposed RTDAS in Maharashtra	Content (CMS)	Main menu
11	Daily Data Daily rain fall Daily rivergauge Dam storage data	Content (CMS)	Main menu
12	Data Request Data availability Data availability (krishna bhima rtdas) Dtat policy dissemination Water quality	Content (CMS)	Main menu
13	Water availability and flood safety Water availability certificate Flood study report Back water supply	Content (CMS)	Main menu
14	India WRIS	Content (CMS)	Main menu

15	Institute	Content (CMS)	Main menu



6.13 Hierarchical Architecture



6.14 Use Cases

The proposed flow has been given for general public for visiting the website for viewing general information present on the website and the Administration part for maintaining the website

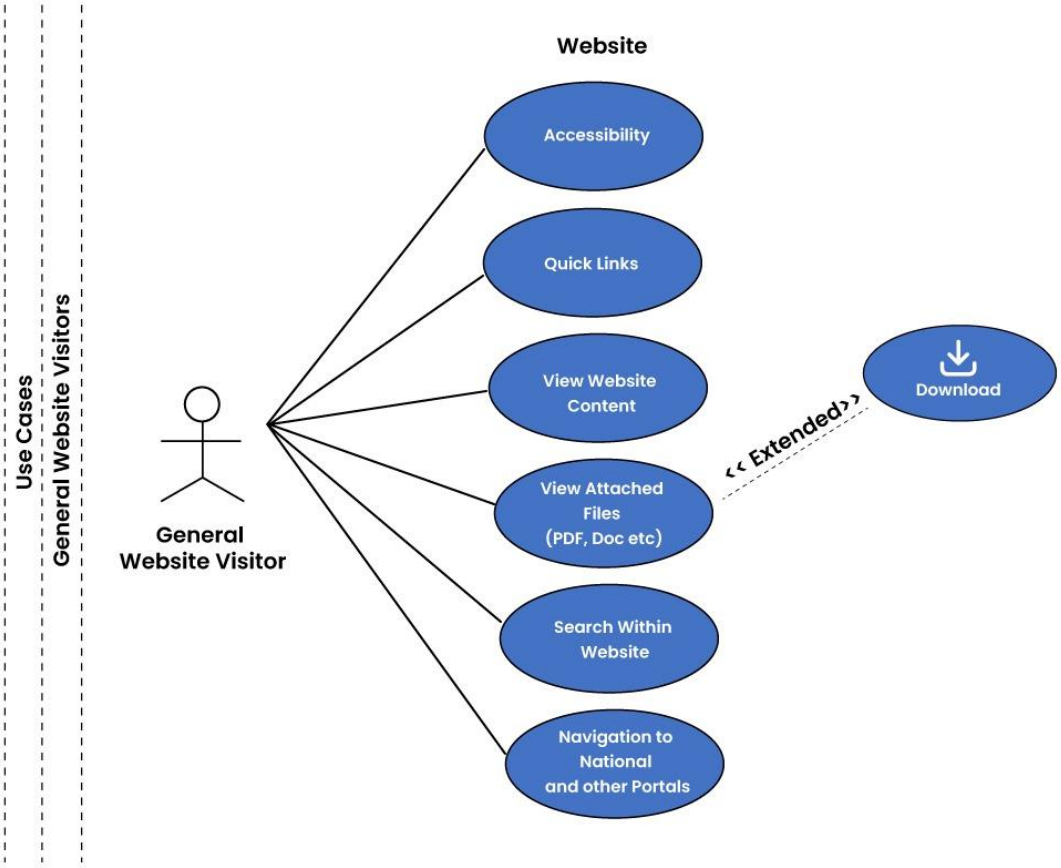
6.15 Use case for General Visitor:

Use Case ID:01

Use Case Name: General visitor

Use Case Description

The general visitor would be able to view the content of the website, search the website content, View the images and will have accessibility options. It can be shown through below Use Case Diagram:



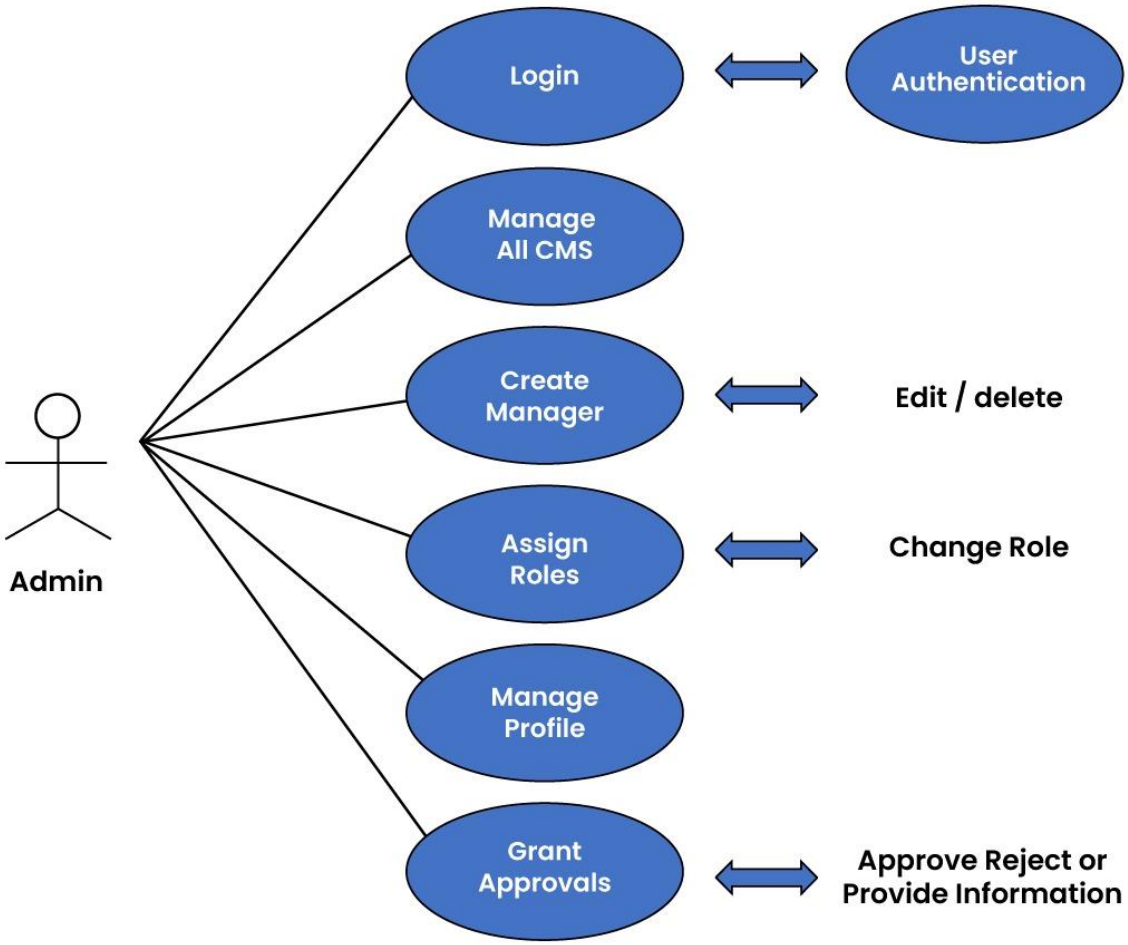
6.16 Use case for Admin:

Use Case ID:02

Use Case Name: Admin visit

Use Case Description

The Proposed Flow has been given for Admin for handling website ‘s contents and administrative part for maintaining the website’s content of relevant departments .



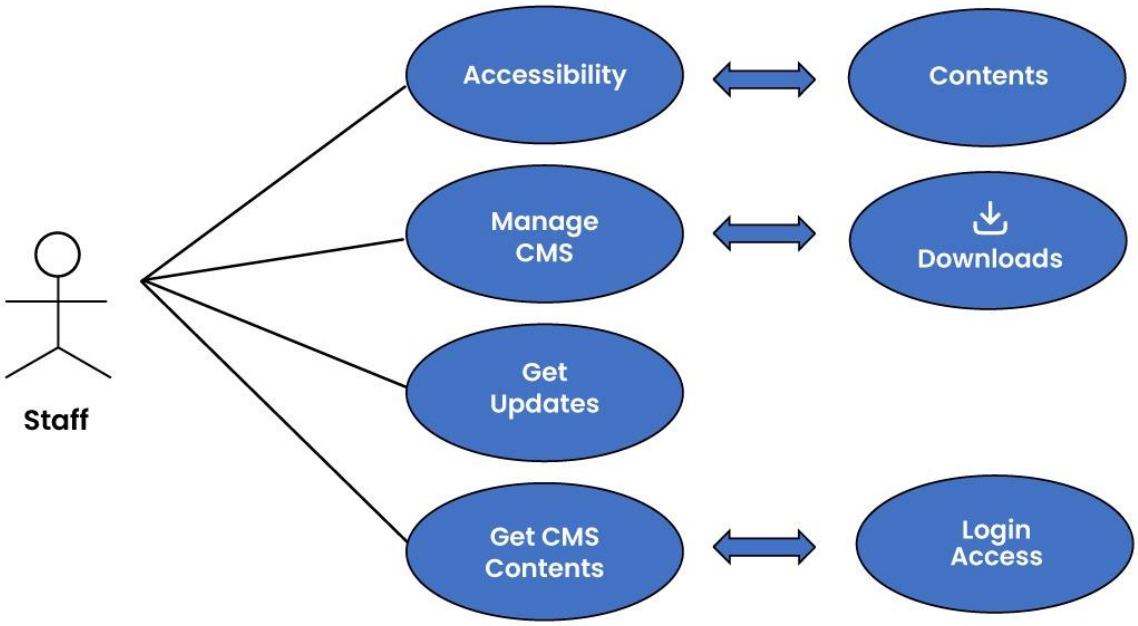
6.17 Use case for Staff:

Use Case ID:04

Use Case Name: staff Visitor

Use Case Description

_The Proposed Flow has been given for staff who will able to see the web contents and access, update/edit the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.



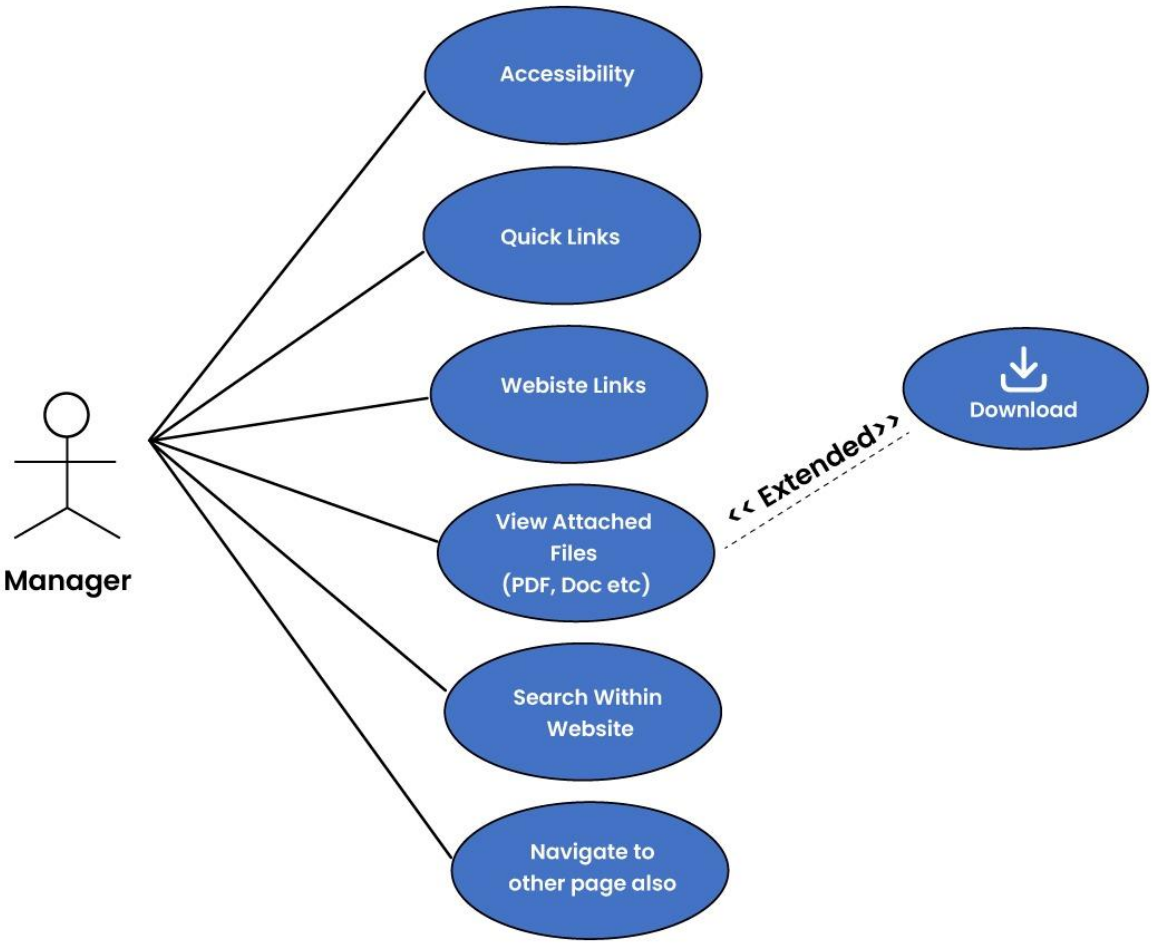
6.18 Use case for managers:

Use Case ID:05

Use Case Name: Manager Visitor

Use Case Description

_The Proposed Flow has been given for Manager who will able to see the web contents and access the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.



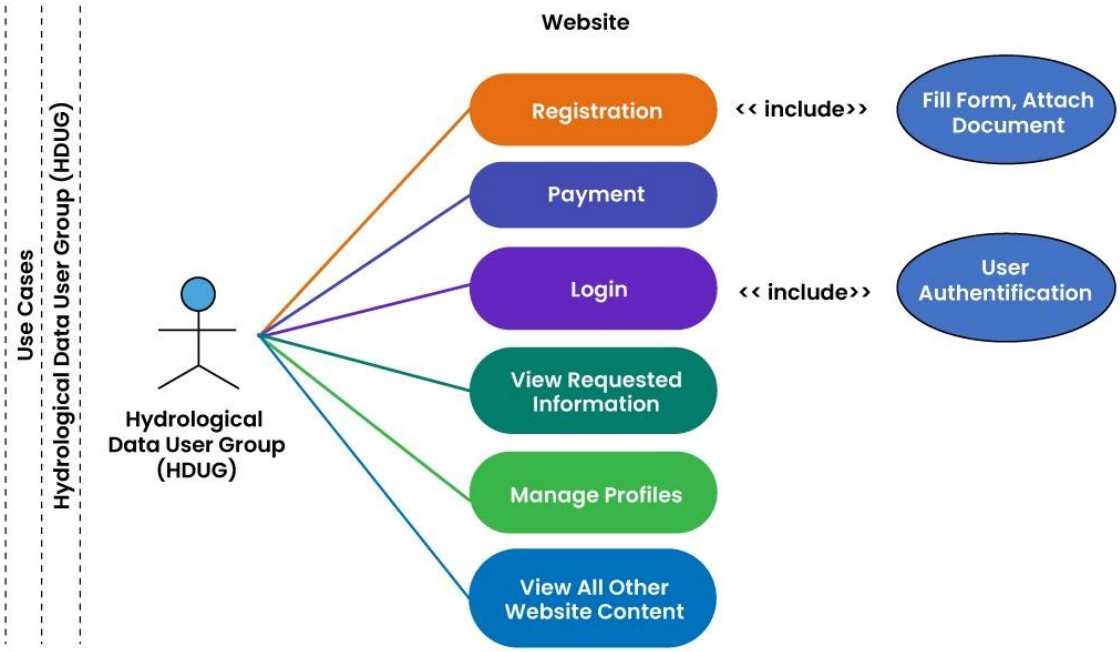
6.19 Use case for HDUG Data user Group

Use Case ID: 07

Use Case Name: Hydrological Data User Group (HDUG)

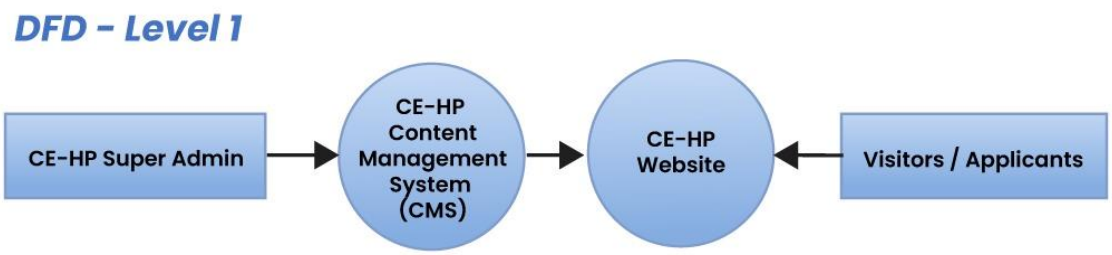
Use Case Description: The Hydrological Data User Group (HDUG) User would be able to do Membership registration by fill registration form, select membership type and make payment. HDUG user can also view the content of the website, search the website content, View the images and will have accessibility options.

Basic Flow The HDUG User First Register and create login. Then login in website by username and password and access the member area. In Member area user access requested information that was approved by admin.



Data Flow Diagrams

DFD – Level 1

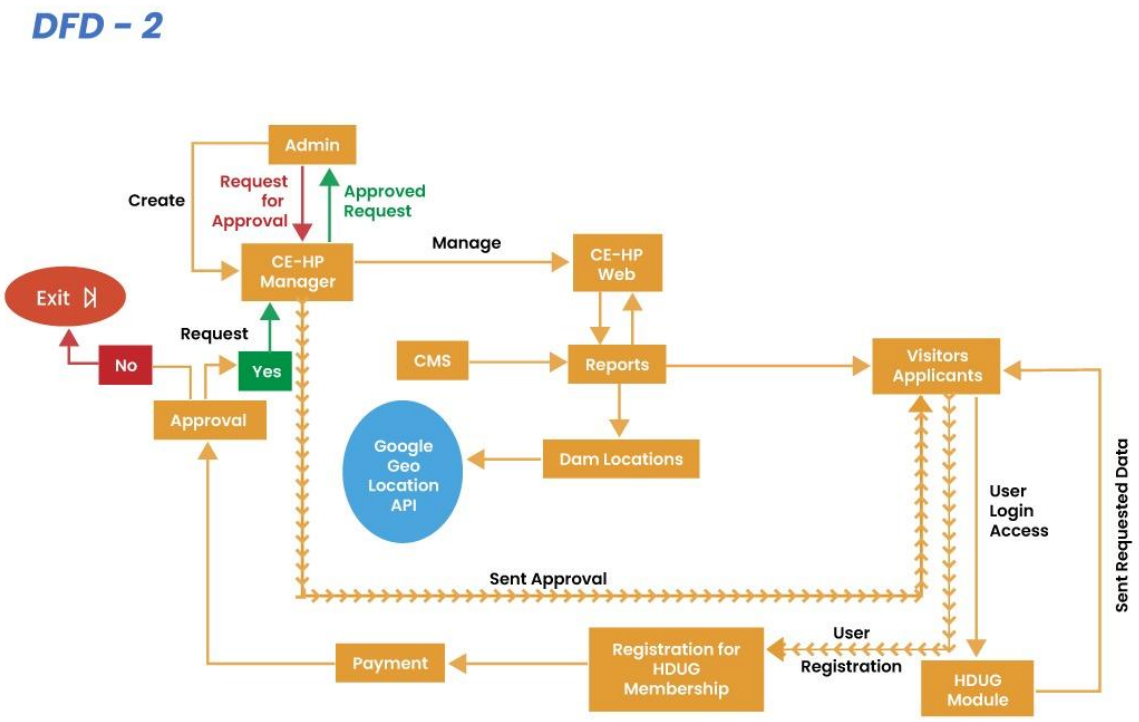


6.20 Data Flow Description:

- **CE-HP Super Admin**: Provides input, configuration, and data management in the CMS.

- **CMS**: Acts as the intermediary, managing the flow of content and data between the Admin and the website.
- **CE-HP Website**: Delivers content and services to **Visitors / Applicants**, allowing them to interact with the system and send back data, which gets processed by the CMS.
- **Visitors / Applicants**: Submit applications or requests and view data served by the CMS.

DFD – Level 2

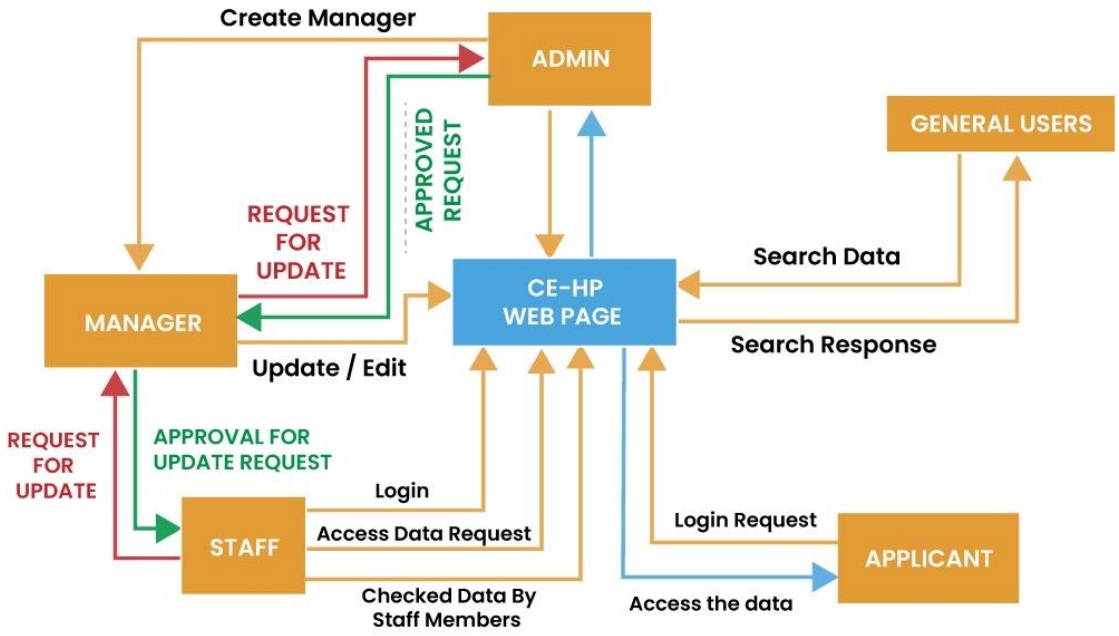


6.21 Flow of Data:

1. **Request Creation**:
   - The process begins when a **Visitor Applicant** creates a request.
2. **Request for Approval**:
   - The request is sent to the **CE-HP Manager**, which forwards it to the **Admin** for approval.

3. **Approval Decision**:
    - If the request is rejected, the process terminates, and the user exits.
    - If the request is approved, the **Admin** sends the approved request back to the **CE-HP Manager**.
4. **Managing Approved Requests**:
    - Once approved, the **CE-HP Manager** manages the request and interacts with different components:
        - **CMS**: Handles content management, including reports and dam locations.
        - **CE-HP Web**: Offers web-based reports and manages dam location data.
5. **User Registration and Access**:
    - Users go through the **HDUG Module** for registration.
    - After registering, the **HDUG Module** communicates with the **Visitors Applicants** system to give users login access.
    - Once users log in, the system sends the requested data back to the **Visitors Applicants**.
6. **Google Geo Location API Integration**:
    - The **Google Geo Location API** provides location-related data for dams, enhancing the system's ability to manage geographical information effectively.
7. **Payment Process**:
    - The **Payment** component is linked to the process, likely for handling transactions related to requests or registrations.

Overall Flow Of CE-HP :



6.21.1 Requirement ID: (CEHP)FR-1

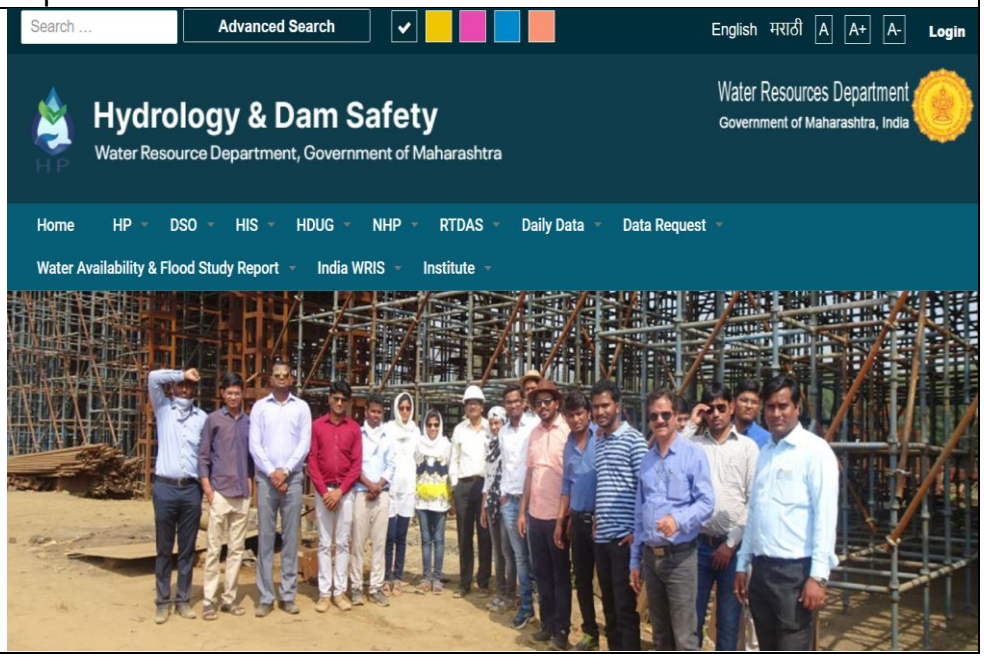
Requirement Name: Home (Menu Navigation)

• **Requirement Description:** This would be provided under the Menu Bar of the Home Page. The Mouse hover effect is given to its CSS Style.

Stimulus/ Response Sequences: The user will direct to the main page of the website, on once clicking on the menu.

Data Fields/Elements: Not Required

Requirement Name:	Home (Menu Navigation)
Requirement Description:	The user will direct to the main page of the website, on once clicking on the menu
Primary Actor:	User, Administrative
Main Success Scenario:	Screen Containing following Functionality • Menu

Trigger	when the user interacts with the Home menu item by hovering over it, followed by a click action to access the main page of the website.
Business Context:	The Home page will be give all the detail onformation of the department
User Screen	

6.21.2 Requirement ID: (CEHP)FR-2

Requirement Name: About Us

• **Requirement Description:** The menu for About Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the brief introduction about The CE - Hydrology Project & Dam Safety Organisation (CEHP). This will be a content-based CMS page managed by the Site Administrator.

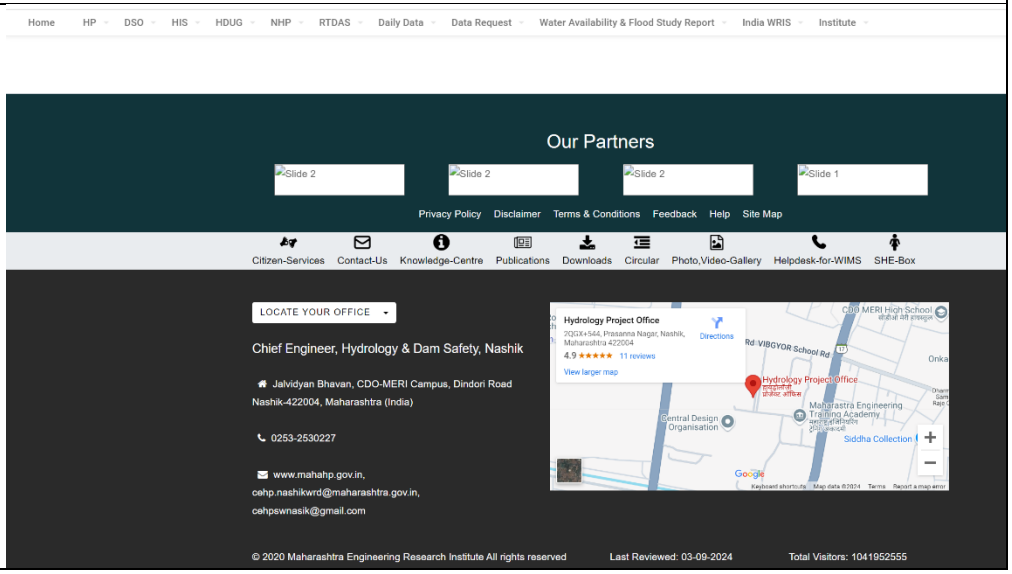
Stimulus/ Response Sequences: On moving the cursor over the About Us tab, the following sub-menus will appear on the drop down.

Data Fields/ Elements:

About Us

- o General Information
- o Objectives of HP
- o Organization Chart
- o Work Profile
- o Contact Us

Requirement Name:	About Us
Requirement Description:	This will help the department to give the brief introduction about CEHP

Primary Actor:	User, administrative
Main Success Scenario:	Screen Containing following Functionality • General Information • Work Profile
Trigger	when a user moves their cursor over the About Us menu item on the Home Page, prompting the dropdown menu to display the sub-menu options
Business Context:	he "About Us" section on the CE - Hydrology Project & Dam Safety Organisation (CEHP) website is designed to provide essential information and enhance user engagement. Accessible from the main menu with a mouse hover effect, it includes: • **General Information**: Overview of CEHP. • **Objectives of HP**: Key goals of the Hydrology Project. • **Organization Chart**: Visual structure of the organization. • **Work Profile**: Summary of projects and initiatives. • **Contact Us**: Communication channels.
User Screen	

6.21.3 Requirement ID: (CEHP)FR-3

Requirement Name: State Dam and Safety Organisation (SDSO) Module

• **Requirement Description:** The SDSO Module will provide comprehensive information regarding the State Dam and Safety Organisation, including sections on General Information, Objectives, Work Profile, Organisation Chart, and Contact Us. It will also cover aspects of Dam Safety, Canal Safety, External Aided Projects, and Publications. Each section will contain relevant static and dynamic pages, offering access to necessary documents, reports, and safety protocols.

Stimulus/Response Sequences: When a user accesses the SDSO Module, they will be presented with various sections, including About DSO, Dam Safety, Canal Safety, External Aided Projects, and Publications. Clicking on any section will direct users to

either static pages with detailed information or dynamic pages displaying real-time data and updates, such as inspection status and project reports.

Data Fields/Elements:

1. **About DSO** (Static Pages)
    - General Information
    - Objective
    - Work Profile
    - Organisation Chart
    - Contact Us
2. **Dam Safety** (Static Pages and Dynamic Pages)
    - DSA-2021 (Specified Dam)
    - Status (Dynamic Page)
        - Inspection (Pre-Monsoon, Post-Monsoon)
    - Instrumentation (Static Pages)
        - Dam Instrument
        - Seismological Instrument
        - Hydro-meteorological Instrument
    - Logbook (Dynamic Page)
    - Documentation (Dynamic Page)
    - Emergency Action Plan (EAP) (Dynamic Page)
    - Operation and Maintenance (O&M) (Dynamic Page)
    - Comprehensive Dam Safety Evaluation (CDSE) (Dynamic Page)
    - Risk Assessment Studies (RAS) (Dynamic Page)
3. **Canal Safety** (Static Pages and Dynamic Pages)
    - Status (Canal Database - Static Page)
    - Inspection (Dynamic Page)
4. **External Aided Project** (Dynamic Pages)
    - DRIP-II & III
        - Physical Status (Dynamic Page)
        - Financial Status (Dynamic Page)
5. **Publications** (Static Pages)
    - Annual Reports
        - Dams Reports (Health Status Report, Corporation-wise Health Status Report)
        - Canal Reports (Canal Network Status Report, Corporation-wise Status Report)
    - References
        - Dams (Acts & GR, Guidelines, National Register on Large Dams)
        - Canal (Acts & GR, Canal Safety Manuals)
        - DRIP II & III (Acts & GR)
    - Standard Formats
        - Emergency Action Plan (EAP) Proforma
        - Operation and Maintenance (O&M) Proforma
        - Standard CWC Checklist for Inspection of Dams
        - Instrumentation Proforma
        - Logbook Proforma
        - Form of Annual Inspection of Canal Network

Requirement Name:	**State Dam and Safety Organisation (SDSO) Module**
Requirement Description:	The SDSO Module will provide comprehensive information regarding the State Dam and Safety Organisation, including sections on General Information, Objectives, Work Profile, Organisation Chart, and Contact Us
Primary Actor:	**User, Administrative.**
Main Success Scenario:	Screen Containing following Functionality • **About DSO** • **HSR** • **Region wise Dam Details** • **Standard Dam Safety Guidelines** • **NCDS Documents** • **Dam inspection Mobile Application** • **DIRP** • **Payment gateway**
Trigger	User can access the SDSO Module to explore sections like General Information and Dam Safety. Clicking on these sections leads to detailed static pages or real-time updates, facilitating informed decision-making regarding safety practices and project developments.
Business Context:	The SDSO Module provides comprehensive information about the State Dam and Safety Organisation dynamic pages will be updated, Deleted, edited by the site administrative, focusing on: 1. **About DSO**: General info, objectives, work profile, organization chart, and contact details (static pages). 2. **Dam Safety**: Includes static pages (instrumentation) and dynamic pages (inspection statuses, logbooks, emergency plans). 3. **Canal Safety**: Static and dynamic updates on canal inspections. 4. **External Aided Projects**: Real-time updates on DRIP-II & III projects, including physical and financial statuses. 5. **Publications**: Access to annual reports, guidelines, and standard documentation formats.

User Screen	

6.21.4 Requirement ID: (CEHP)FR-4

Requirement Name: Hydrological Information System (HIS)

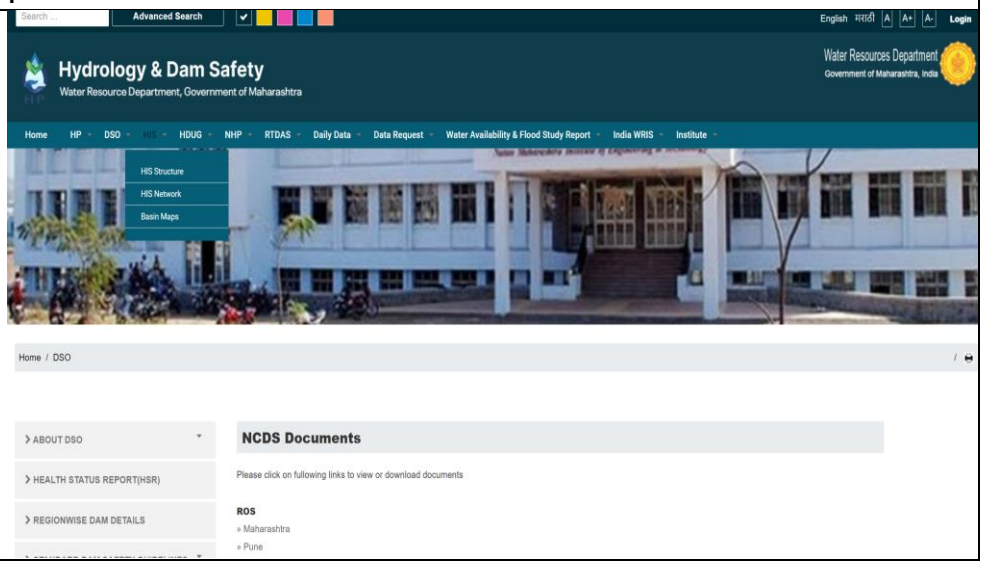
• **Requirement Description:** The Hydrological Information System (HIS) menu will be accessible from the primary Menu Bar on the Home Page, featuring a Mouse Hover Effect designed with CSS. This functionality will enable the department to present a concise overview of the Hydrological Information System (HIS) within the CE - Hydrology Project and Dam Safety Organisation (CEHP). The content will be maintained on a CMS page overseen by the Site Administrator.

Data Fields/ Elements: The categories under HIS will be managed through CMS i.e. Content Management System.

HIS

- o HIS Structure
- o HIS Network
- o Basin Maps

Requirement Name:	Hydrological Information System (HIS)
Requirement Description:	The Hydrological Information System (HIS) menu will be accessible from the primary Menu Bar on the Home Page, featuring a Mouse Hover Effect designed with CSS. This functionality will enable the department to present a concise overview of the Hydrological Information System (HIS) within the CE - Hydrology Project and Dam Safety Organisation (CEHP)
Primary Actor:	The content will be maintained on a CMS page overseen by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality HIS o HIS Structure o HIS Network o Basin Maps

Trigger	Users can access the HIS menu from the Home Page. Hovering over the HIS tab reveals sub-menu options, leading to detailed content managed through the Content Management System (CMS)
Business Context:	The Hydrological Information System (HIS) module will provide users with easy access to essential hydrological data as part of the CE - Hydrology Project and Dam Safety Organisation (CEHP) website maintained by the site administrative. 1. **HIS Structure**: Overview of the organizational framework of the HIS. 2. **HIS Network**: Information on the hydrological network in place. 3. **Basin Maps**: Visual representation of basins, aiding in data analysis and decision-making. .
User Screen	

6.21.5 Requirement ID: (CEHP)FR-5

Requirement Name: Hydrological Data Users Group (HDUG) & Data Dissemination Module

Requirement Description: The HDUG & Data Dissemination Module will provide comprehensive information and resources related to hydrological data usage and dissemination. It will include static pages covering Introduction, Eligibility & Criteria, HDUG Cells, Membership details, Payment Gateway, and Data Policy. Additionally, it will feature dynamic pages for Data Availability, ensuring users can access relevant hydrological data efficiently.

Stimulus/Response sequences: When a user accesses the HDUG & Data Dissemination Module, they will see sections for Introduction, Eligibility, HDUG Cells, Membership information, and various data availability options. Clicking on any static section will display detailed information, while dynamic sections will present real-time data availability for conventional and Krishna-Bhima RTDAS datasets.

Data Fields/Elements

1. **Introduction** (Static Page)

- Overview of HDUG and its objectives

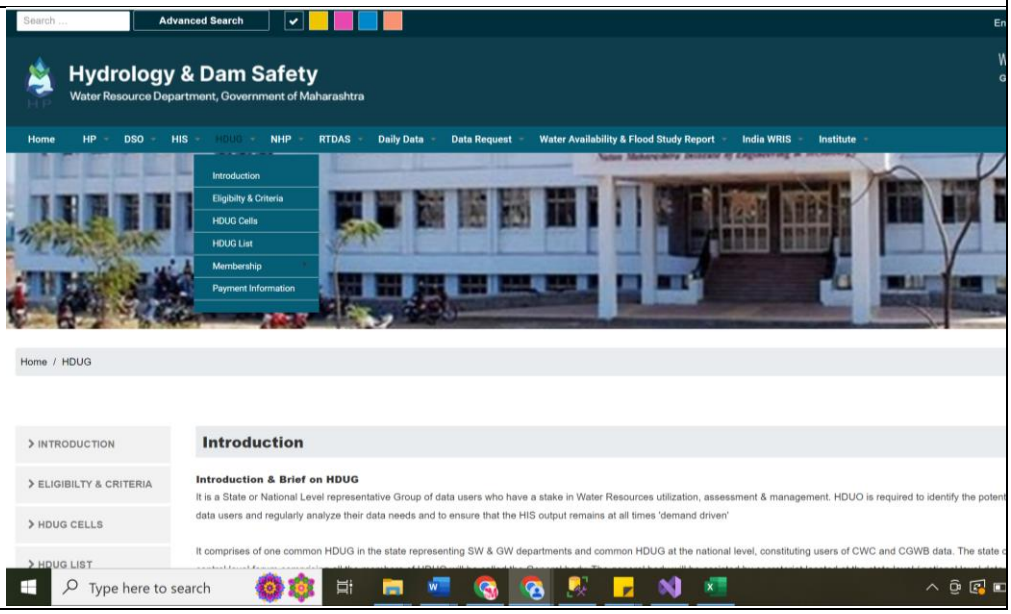
2. **Eligibility & Criteria** (Static Page)
   - Membership eligibility requirements
3. **HDUG Cells** (Static Page)
   - List and details of HDUG cells
4. **HDUG List** (Static Page)
   - Directory of HDUG members
5. **Membership** (Static Pages)
   - User Guide
   - Membership Registration
     - User Name
     - Email Address
     - Registration Details
   - Payment Information
     - Payment Methods
     - Fees
6. **Payment Gateway** (Static Page)
   - Secure payment options for membership
7. **Data Availability (Conventional)** (Dynamic Page)
   - List of available conventional data
8. **Data Availability (Krishna-Bhima RTDAS)** (Dynamic Page)
   - List of available RTDAS data
9. **Data Policy & Dissemination Process** (Static Pages)
   - Dissemination Policy
   - Dissemination Process
10. **Water Quality - WQ** (Static Pages)
    - Introduction
    - WQ Labs in Maharashtra
    - WQ Parameters
    - WQ Data Availability
11. **Sedimentation Data** (Static Pages)
    - Sedimentation Station in Maharashtra

Sedimentation Data Availability

Requirement Name:	Hydrological Data Users Group (HDUG)
Requirement Description:	It will include static pages covering Introduction, Eligibility & Criteria, HDUG Cells, Membership details, Payment Gateway, and Data Policy. Additionally, it will feature dynamic pages for Data Availability, ensuring users can access relevant hydrological data efficiently.
Primary Actor:	The content will be maintained on a CMS page overseen by the Site Administrator.

Main Success Scenario:	Screen Containing following Functionality • Introduction • Eligibility • HDUG cell • HDUG List • Membership • Payment Information
Trigger	user accesses the HDUG, they are presented with options to view static information and real-time data availability related to hydrological data.

Business Context:	The HDUG & Data Dissemination Module is designed to provide comprehensive information and resources related to hydrological data usage. It will serve as a central hub for stakeholders involved in water management and research. Dynamic Information will be maintained by the side Administrative.
	• **Static Pages**:
	  ○ **Introduction**: Overview of HDUG.
	  ○ **Eligibility & Criteria**: Membership requirements.
	  ○ **HDUG Cells**: Details about HDUG cells.
	  ○ **Membership Details**: User guides, registration, and payment information.
	  ○ **Payment Gateway**: Secure payment options.
	  ○ **Data Policy**: Guidelines for data sharing.
	• **Dynamic Pages**:
	  ○ **Data Availability**: Real-time listings of conventional data and Krishna-Bhima RTDAS datasets.

User Screen	

6.21.6 Requirement ID: (CEHP)FR-6

Requirement Name: National Hydrology Project (NHP)

• **Requirement Description:** The menu for National Hydrology Project (NHP) would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the brief introduction about the National Hydrology Project (NHP) in The CE - Hydrology Project and Dam Safety Organisation (CEHP). This will be a content-based CMS page managed by the Site Administrator

Data Fields/ Elements: The categories under NHP will be managed through CMS i.e. Content Management System**.**

NHP

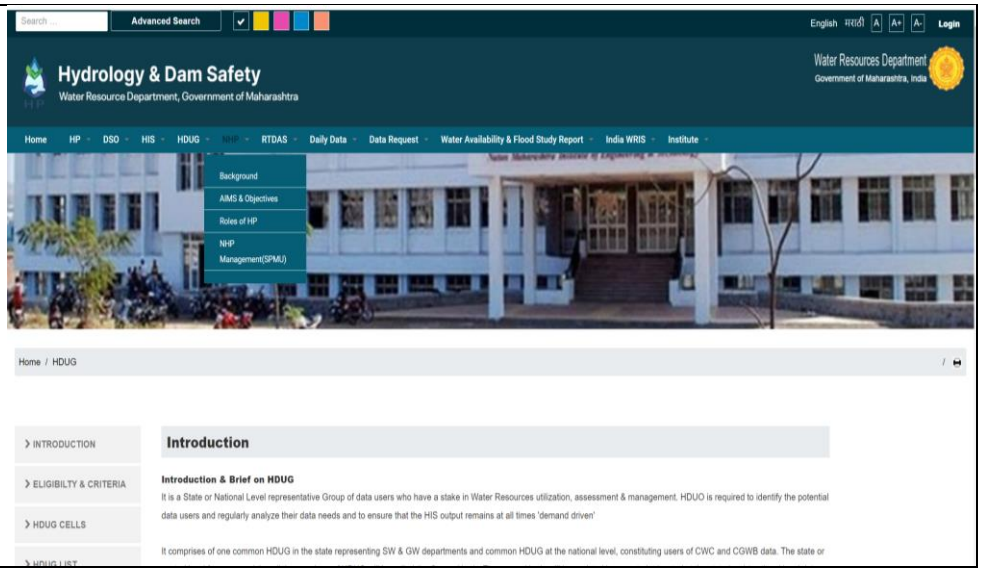
o Background

o Aims & Objectives

o Roles of HP

o NHP Management (SPMU)

Requirement Name:	National Hydrology Project (NHP)
Requirement Description:	the brief introduction about the National Hydrology Project (NHP) in The CE - Hydrology Project and Dam Safety Organisation (CEHP).
Primary Actor:	The content will be maintained on a CMS page overseen by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality • Background • AIMS & Objectives • Role of HP • NHP Management
Trigger	National Hydrology Project (NHP) menu on the home page, they can access detailed information about the project.
Business Context:	The National Hydrology Project (NHP) module is designed to provide essential information about the NHP within the CE - Hydrology Project and Dam Safety Organisation (CEHP). This module will enhance user engagement and understanding of the project's significance. Administrator has privileges to Add & Update institute Details. Data cannot be edited. 1. **Background**: Overview of the National Hydrology Project. 2. **Aims & Objectives**: Key goals of the project. 3. **Roles of HP**: Responsibilities of the Hydrology Project within NHP. 4. **NHP Management (SPMU)**: Information about the State Project Management Unit and its functions.

User Screen	

6.21.7 Requirement ID: (CEHP)FR-7

Requirement Name: Real Time Data Acquisition System (RTDAS) Module

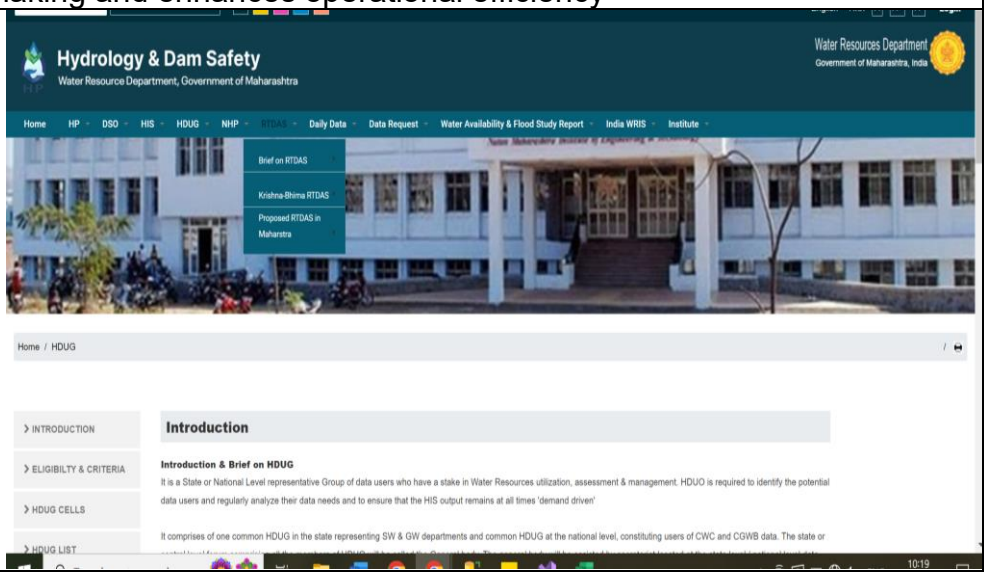
• **Requirement Description:** The RTDAS Module will provide essential information regarding the Real Time Data Acquisition System, focusing on its functionality, equipment, and related projects. This module will feature static pages for general information and specific RTDAS equipment, alongside dynamic pages for real-time data systems such as stream forecasting and the state-level portal.

Stimulus/Response sequences: When a user accesses the RTDAS Module, they will be presented with static pages containing introductory information about RTDAS, its equipment, and details on the Krishna-Bhima Real Time Data Support System. Users can navigate to dynamic pages that showcase real-time stream forecasting, reservoir operation systems, and the proposed network and structure of RTDAS in Maharashtra.

Data Fields/Elements:

1. **Brief on RTDAS** (Static Page)
   - Overview of RTDAS and its significance
2. **RTDAS Equipment's** (Static Page)
   - List of equipment used in RTDAS
   - Specifications and functionalities
3. **Krishna-Bhima Real Time Data Support System - RTDSS** (Static Pages)
   - Krishna-Bhima Pilot Project Overview
   - Network & Structure
4. **Real Time Stream Forecasting & Reservoir Operation System - RTSF & ROS** (Dynamic Page)
   - Real-time data metrics
   - Forecasting models
5. **Proposed RTDAS in Maharashtra** (Dynamic Pages)
   - Introduction to RTDAS in National Hydrology Project (NHP)
   - Network & Structure
   - State Level Portal for RTDAS
     - Access to real-time data

User interface for data exploration

Requirement Name:	Real Time Data Acquisition System (RTDAS) Module
Requirement Description:	The RTDAS Module will provide essential information regarding the Real Time Data Acquisition System, focusing on its functionality, equipment, and related projects
Primary Actor:	The content will be maintained on a CMS page overseen by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality •
Trigger	Real Time Data Acquisition System (RTDAS) Module from the main menu, they gain access to both static and dynamic information about the RTDAS and its functionalities.
Business Context:	providing comprehensive insights into the Real Time Data Acquisition System. By presenting detailed information about RTDAS equipment and real-time data systems, this module facilitates informed decision-making and enhances operational efficiency
User Screen	

6.21.8 Requirement ID: (CEHP) FR-8

Requirement Name: Daily Data

• **Requirement Description:** The Daily Data menu will be accessible from the main Menu Bar located on the Home Page. This specific tab will display information pertaining to Daily Rainfall (Conventional), Daily River Gauge (Conventional), and Dam Storage Data. The Daily Data section is further categorized into submenus. Some of these submenus will be managed through the Content Management System (CMS), while others will operate dynamically.

o **Daily Rainfall (Conventional):** Daily Rainfall Data in monsoon season measured manually at Standard Rain gauge Stations – SRG. Collected Data will be provided by the department and we will show that data into website with graphical representation. Data will be searched based on different criteria.

- Maximum Rainfall
- Minimum Rainfall
- Cumulative Rainfall till date for this year (mm)
- Cumulative Rainfall till same date in previous year (mm)
- Query based search

o **Daily River gauge (Conventional):** Daily River gauge (River Discharge) Data in monsoon season measured manually at River Gauging sites – GD Sites. All River gauge observations are made at 08:30 hrs. IST daily. This data is instantaneous data. Collected Data will be provided by the department and we will show that data into website with graphical representation. Data will be searched based on different criteria.

- Maximum River Discharge
- Minimum River Discharge
- Query based search

o **Dam Storage Data:** User can see Water Storage Reports for both today and previously recorded Data. Source of this data is official website of Water Resources Department, Maharashtra.

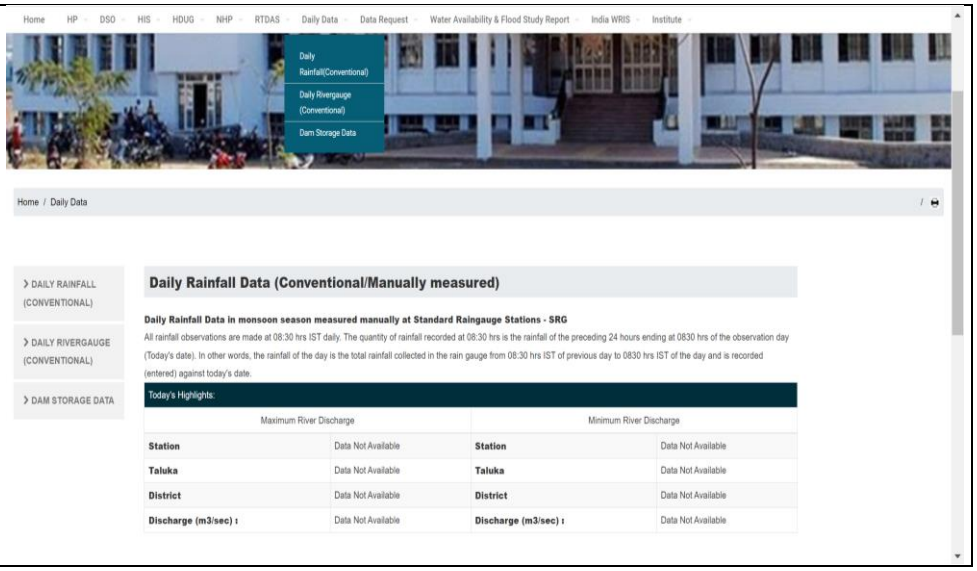
- On Click User can see todays and previous Water Storage Data

Data Fields/ Elements: The categories under Daily data will be managed through Daily Data Module.

Daily Data

o Daily Rainfall (Conventional)
o Daily River gauge (Conventional)
o Dam Storage Data

Requirement Name:	Daily Data
Requirement Description:	This specific tab will display information pertaining to Daily Rainfall (Conventional), Daily River Gauge (Conventional), and Dam Storage Data
Primary Actor:	This will manage by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality • Daily Data
Trigger	"Daily Data" menu item from the main menu bar, they will be taken to a section displaying various daily data related to rainfall, river gauge measurements, and dam storage
Business Context:	The Daily Data module provides critical, real-time information on rainfall, river gauge readings, and dam storage levels, supporting effective water resource management. Administrator has privileges to Add & Update KWDT Details. Data cannot be edited

User Screen	

6.21.9 Requirement ID: (CEHP)FR-9

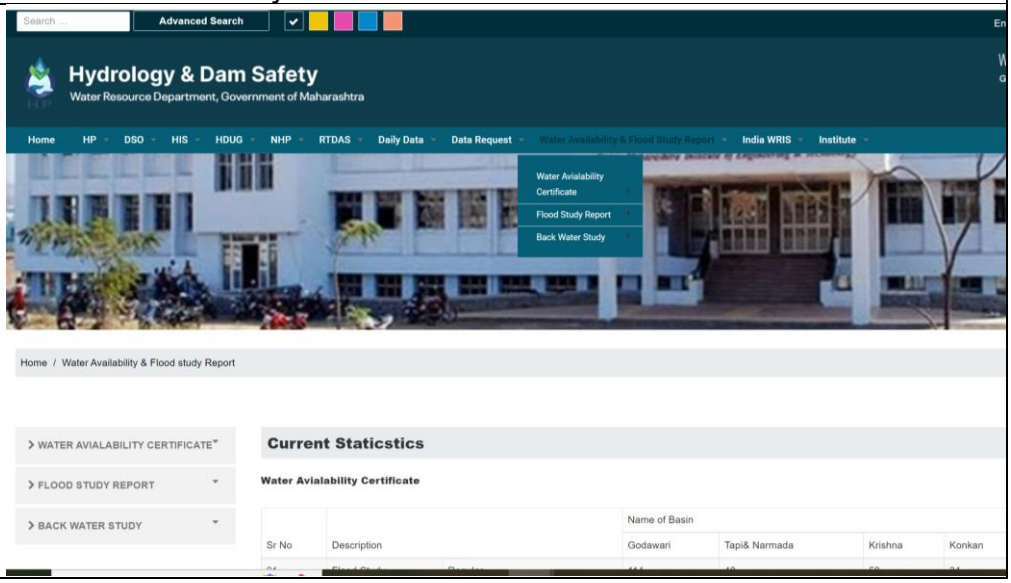
Requirement Name: Water Availability & Study Report Module

• **Requirement Description:** The Water Availability & Study Report Module will provide essential information regarding water availability certificates and related studies. It will include dynamic pages for current statistics related to water availability and flood studies, as well as static pages detailing procedures and drafts for obtaining certificates and conducting studies.

Stimulus/Response sequences: When a user accesses the Water Availability & Study Report Module, they will find dynamic pages displaying current statistics for water availability and flood studies. Users can click on links to view detailed procedures and drafts on static pages for obtaining water availability certificates and conducting flood and backwater studies.

Data Fields/Elements:

1. **Water Availability Certificate**
   - **Current Statistics** (Dynamic Page)
     - Water levels
     - Availability metrics
   - **Procedure & Drafts** (Static Page)
     - Steps for obtaining a certificate
     - Draft documents for user reference
2. **Flood Study Report**
   - **Current Statistics** (Dynamic Page)
     - Flood data metrics
     - Historical data analysis
   - **Procedure & Drafts** (Static Page)
     - Steps for conducting flood studies
     - Draft documents for user reference
3. **Back Water Study**
   - **Procedure & Drafts** (Static Page)
     - Steps for conducting backwater studies
     - Draft documents for user reference

Requirement Name:	Water Availability & Study Report Module
Requirement Description:	The Water Availability & Study Report Module will provide essential information regarding water availability certificates and related studies. It will include dynamic pages for current statistics related to water availability and flood studies
Primary Actor:	This will manage by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality ○ **Water Availability Certificate** • **Flood Study Report** ○ Back water Study
Trigger	Clicking on the Water Availability & Study Report Module from the main menu.
Business Context:	Provides essential information on water availability and flood studies, featuring real-time statistics and clear procedures for obtaining water availability certificates. It enhances decision-making and transparency for stakeholders by combining dynamic data with detailed procedural documentation, supporting effective water resource management. Administrator has privileges to Add & Update KWDT Details. Data cannot be edited by staff .
User Screen	

6.21.10 Requirement ID: (CEHP)FR-10

Requirement Name: Citizen Services Module

Requirement Description: The Citizen Services Module will provide essential resources for citizens, including a Citizen Charter that outlines services and commitments, information regarding the Information Act, and a Guest Book for feedback and suggestions. This module aims to enhance transparency and facilitate communication between citizens and the organization.

Stimulus/Response sequences: When a user accesses the Citizen Services Module, they will see three main sections: the Citizen Charter, Information Act, and Guest Book. Clicking on the Citizen Charter will display detailed information about the services offered. The Information Act section will provide relevant details regarding citizen rights and access to information, while the Guest Book will allow users to submit their feedback and suggestions.

Data Fields/Elements:

1. **Citizen Charter** (Static Page)
    - Overview of services offered
    - Service commitments
    - Contact information for service queries
2. **Information Act** (Static Page)
    - Summary of the Information Act
    - Rights of citizens
    - Procedures for accessing information
3. **Guest Book** (Static Page)
    - User Name (Text Field)
    - Email Address (Email Field)
    - Feedback/Suggestion (Text Area)
    - Submit Button (Button)

Requirement Name:	Citizen Services Module
Requirement Description:	Citizen Services Module will provide essential resources for citizens, including a Citizen Charter that outlines services and commitments, information regarding the Information Act, and a Guest Book for feedback and suggestions
Primary Actor:	This will manage by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality • **Citizen Charter** • **Information Act** • **Guest Book**
Trigger	Accessing the Citizen Services Module from the main menu.
Business Context:	The Citizen Services Module is designed to enhance citizen engagement and transparency by providing key resources. It features a Citizen Charter outlining services and commitments, information on the Information Act to empower citizen rights, and a Guest Book for feedback. This module fosters communication between citizens and the organization, ensuring their voices are heard and promoting accountability. Administrator has privileges to Add & Update Details. Data cannot be edited
User Screen	

6.21.11 Requirement ID: (CEHP)FR-11

Requirement Name: Contact Us Module

Requirement Description: The Contact Us Module will provide essential contact information for various engineering offices and divisions within the organization. This

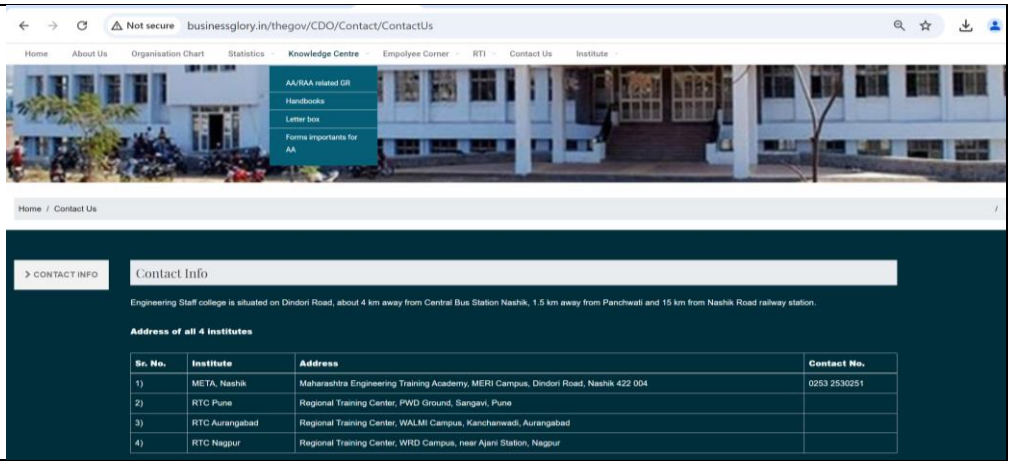
module includes details for the Chief Engineer (CE) Office, Superintending Engineers (SE) for different departments, and Executive Engineers (EE) across multiple locations. It aims to facilitate communication between citizens and the relevant departments.

Stimulus/Response sequences: When a user accesses the Contact Us Module, they will see a comprehensive list of contact information categorized by office and department. Clicking on any section will reveal specific contact details for respective engineers and divisions, allowing users to easily find and reach out to the appropriate personnel.

Data Fields/Elements:

1. **CE Office** (Static Page)
    - Contact information for the Chief Engineer's Office
2. **SE DCPH** (Static Page)
    - **EE, HPD, Pune** (Contact Details)
    - **EE, HPD, Aurangabad** (Contact Details)
    - **EE, HPD, Nagpur** (Contact Details)
    - **EE, HPD, Amravati** (Contact Details)
    - **EE, HPD, Thane** (Contact Details)
3. **SE DAC** (Static Page)
    - **EE, HDPD, Nashik** (Contact Details)
    - **EE, WPD, Nashik** (Contact Details)
    - **EE, HRD, Nashik** (Contact Details)
    - **EE, WPD (Flood), Nashik** (Contact Details)
4. **SE DSO** (Static Page)
    - **Dam Safety Division No. 1, Nashik** (Contact Details)
    - **Instrumentation Research Division, Nashik** (Contact Details)
    - **Dam Safety Unit, Nashik** (Contact Details)

Requirement Name	Contact Us
Requirement Description:	This will help the department to give the detail about contact details of KWDT
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality • Contact us
Trigger	the "Contact Us" menu item in the main navigation bar, the page displaying contact information for KWDT is accessed.
Business Context:	The Contact Us module facilitates communication between institute and site administrative by providing essential contact details. This content-managed section ensures users can easily find and reach out for inquiries or support, promoting transparency and responsiveness.

User Screen	

6.21.12 Requirement ID: (CEHP)FR-12

Requirement Name: Knowledge Centre Module

Requirement Description: The Knowledge Centre Module will serve as a centralized repository for important information and resources related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization). This module will include static pages that provide relevant insights, guidelines, and documents to enhance the understanding and practices of stakeholders.

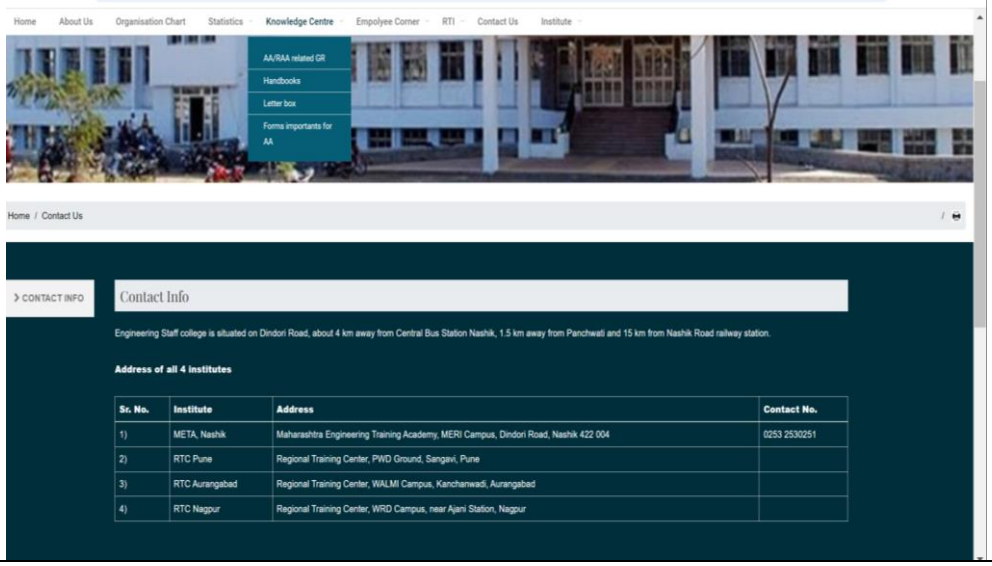
Stimulus/Response sequences: When a user accesses the Knowledge Centre Module, they will find static pages dedicated to H.P. and D.S.O. Clicking on these sections will reveal detailed information, guidelines, and resources pertinent to hydrology, planning, and dam safety.

Data Fields/Elements:

1. **H.P.** (Static Page)
    - Overview of hydrology and planning concepts
    - Guidelines and best practices
    - Relevant documents and resources
2. **D.S.O.** (Static Page)
    - Overview of dam safety practices
    - Safety protocols and guidelines

Relevant documents and resources

Requirement Name	Knowledge Centre Module
Requirement Description:	The Knowledge Centre Module will serve as a centralized repository for important information and resources related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization).
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality o H.P o D.S. O
Trigger	Accessing the Knowledge Centre Module from the main menu.

Business Context:	The Knowledge Centre Module acts as a centralized hub for stakeholders seeking information on Hydrology and Planning (H.P.) and Dam Safety Organization (D.S.O.). It features static pages that provide comprehensive overviews, guidelines, and essential documents to enhance understanding and practices in hydrology and dam safety maintained by the site administrative.
User Screen	

6.21.13 Requirement ID: (CEHP)FR-13

Requirement Name: Publications Module

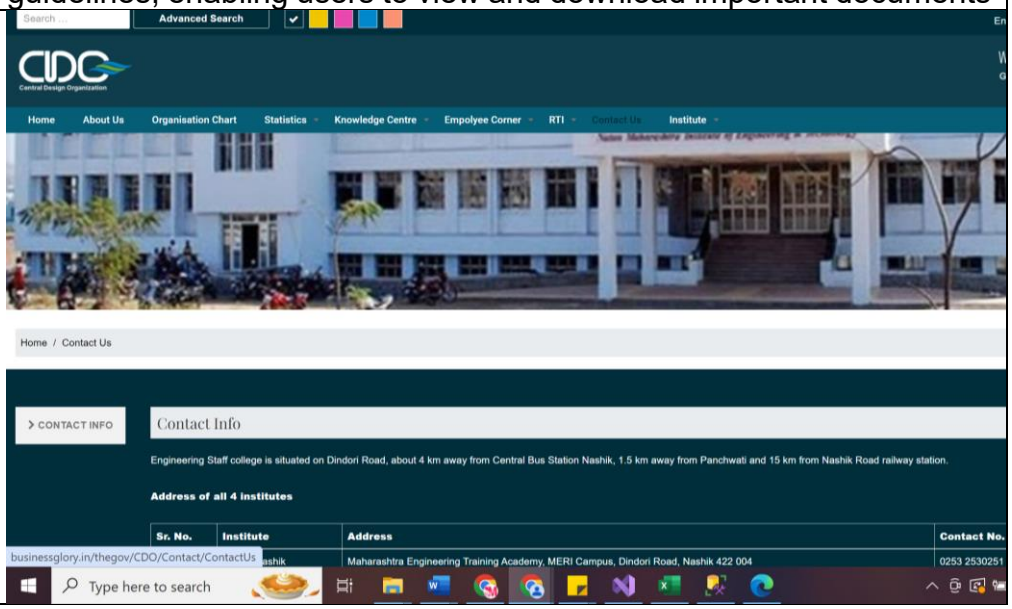
Requirement Description: The Publications Module will provide access to important publications related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization). This module will include static pages that showcase various reports, research papers, guidelines, and other resources to inform stakeholders and the public.

Stimulus/Response sequences: When a user accesses the Publications Module, they will encounter static pages dedicated to H.P. and D.S.O. Clicking on each section will display a list of available publications, along with options to view or download the documents.

Data Fields/Elements:

1. **H.P.** (Static Page)
    - List of publications related to hydrology and planning
    - Titles and descriptions of each publication
    - Download links for PDF or other formats
2. **D.S.O.** (Static Page)
    - List of publications related to dam safety
    - Titles and descriptions of each publication
    - Download links for PDF or other formats

Requirement Name	Publications Module
Requirement	The Publications Module will provide access to important publications related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety

Description:	Organization). This module will include static pages that showcase various reports, research papers, guidelines, and other resources to inform stakeholders and the public
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality ○ H.P D.S. O
Trigger	Accessing the Publications Module from the main menu.
Business Context:	The Publications Module serves as a vital resource for stakeholders and the public by providing access to key publications related to Hydrology and Planning (H.P.) and Dam Safety Organization (D.S.O.). It features static pages that list various reports, research papers, and guidelines, enabling users to view and download important documents
User Screen	

6.21.14 Requirement ID: (CEHP)FR-14

Requirement Name: Downloads Module

Requirement Description: The Downloads Module will provide a centralized location for users to access downloadable resources related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization). This module will include static pages that offer various documents, forms, guidelines, and other materials for easy download.

Stimulus/Response sequences: When a user accesses the Downloads Module, they will find static pages dedicated to H.P. and D.S.O. Each section will list available downloadable resources, allowing users to click on links to retrieve the desired files in formats such as PDF, Word, or Excel.

Data Fields/Elements:

1. **H.P.** (Static Page)
   - List of downloadable resources related to hydrology and planning
   - Titles and brief descriptions for each file
   - Download links for each resource
2. **D.S.O.** (Static Page)

- List of downloadable resources related to dam safety
- Titles and brief descriptions for each file

Download links for each resource

Requirement Name	Downloads Module
Requirement Description:	The Downloads Module will provide a centralized location for users to access downloadable resources related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization).
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality o H.P D.S. O
Trigger	Accessing the Downloads Module from the main menu.
Business Context:	The Downloads Module serves as a key resource hub for users seeking essential materials related to Hydrology and Planning (H.P.) and Dam Safety Organization (D.S.O.). This module consolidates various downloadable documents, forms, and guidelines, providing easy access for stakeholders and the public. Each section features static pages with organized lists of resources, complete with titles, descriptions, and direct download links.
User Screen	

6.21.15 Requirement ID: (CEHP)FR-15

Requirement Name: Circular Module

Requirement Description: The Circular Module will provide access to important circulars related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization). This module will include static pages that display relevant circulars, announcements, and updates to keep stakeholders informed.

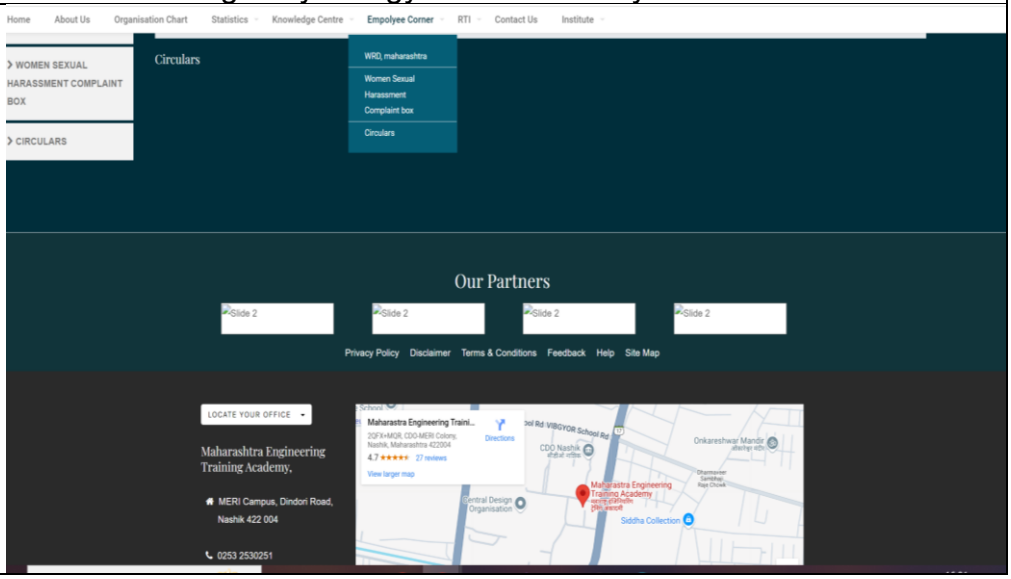
Stimulus/Response sequences: When a user accesses the Circular Module, they will find static pages dedicated to H.P. and D.S.O. Each section will list the available circulars, allowing users to click on links to view or download the documents.

Data Fields/Elements:

1. **H.P.** (Static Page)
   - List of circulars related to hydrology and planning
   - Titles and brief descriptions of each circular
   - Download links for each circular
2. **D.S.O.** (Static Page)
   - List of circulars related to dam safety
   - Titles and brief descriptions of each circular

Download links for each circular

Requirement Name	Circular Module
Requirement	Circular Module will provide access to important circulars related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization)

Description:	
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality ○ H.P D.S. O
Trigger	when users access it to find important circulars related to Hydrology and Planning (H.P.) and Dam Safety Organization (D.S.O.).
Business Context:	The module ensures stakeholders, such as agencies and contractors, have timely access to critical information, enhancing regulatory compliance, risk management, knowledge sharing, and informed decision-making in hydrology and dam safety.
User Screen	

6.21.16 Requirement ID: (CEHP)FR-16

Requirement Name: Video/Image Gallery Module

Requirement Description: The Video/Image Gallery Module will provide a dedicated space for showcasing multimedia content related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization). This module will include static pages featuring a collection of images and videos that highlight key initiatives, events, and educational content.

Stimulus/Response sequences: When a user accesses the Video/Image Gallery Module, they will find static pages for H.P. and D.S.O. Each section will display a curated gallery of images and videos, allowing users to view multimedia content directly or access detailed descriptions for each item.

Data Fields/Elements:

1. **H.P.** (Static Page)
   - Collection of images related to hydrology and planning
   - Videos showcasing relevant projects and initiatives
   - Descriptions and titles for each image/video
2. **D.S.O.** (Static Page)

- Collection of images related to dam safety
- Videos documenting safety practices and assessments
- Descriptions and titles for each image/video

Requirement Name	Video/Image Gallery Module
Requirement Description:	The Video/Image Gallery Module will provide a dedicated space for showcasing multimedia content related to H.P. (Hydrology and Planning) and D.S.O. (Dam Safety Organization).
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality o H.P D.S. O
Trigger	when users access it to view multimedia content related to Hydrology and Planning (H.P.) and Dam Safety Organization (D.S.O.).
Business Context:	This module showcases images and videos to enhance awareness and education about hydrology and dam safety initiatives. It promotes visual engagement, serves as an educational resource, raises public awareness, and documents key activities, fostering transparency and stakeholder connection Administrator has privileges to Add & Update Details.
User Screen	

6.21.17 Requirement ID: (CEHP)FR-17

Requirement Name: Helpdesk for Water Information Management System (WIMS)
Requirement Description: The Helpdesk for WIMS will serve as a dedicated support module, enabling users to seek assistance regarding the Water Information Management System. This module will facilitate user inquiries, technical support requests, and general information related to WIMS.
Stimulus/Response Sequences: When a user accesses the WIMS Helpdesk, they will encounter a support from where they can enter their query. Upon submission, the user will receive an acknowledgment with a reference number, allowing them to track the status of their request. The support team will respond to the inquiry through the provided contact details.
Data Fields/Elements:

1. **Helpdesk Request Form**
   - User Name (Text Field)
   - Email Address (Email Field)
   - Subject (Text Field)
   - Description of Issue/Inquiry (Text Area)
   - Submit Button (Button)

Requirement Name	Helpdesk for Water Information Management System (WIMS)

Requirement Description:	The Helpdesk for WIMS will serve as a dedicated support module, enabling users to seek assistance regarding the Water Information Management System.
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality o HELP
Trigger	when users access the support module to seek assistance with inquiries or technical issues.
Business Context:	The Helpdesk provides centralized support, enabling users to submit inquiries and track their requests. It improves user satisfaction, streamlines communication with the support team, and aids in developing a knowledge base for future reference Staff/Site administrative has privileges to connect Details.
User Screen	

6.21.18 Requirement ID: (CEHP)FR-18

Requirement Name: Sexual Harassment e-Box (She - Box) Module

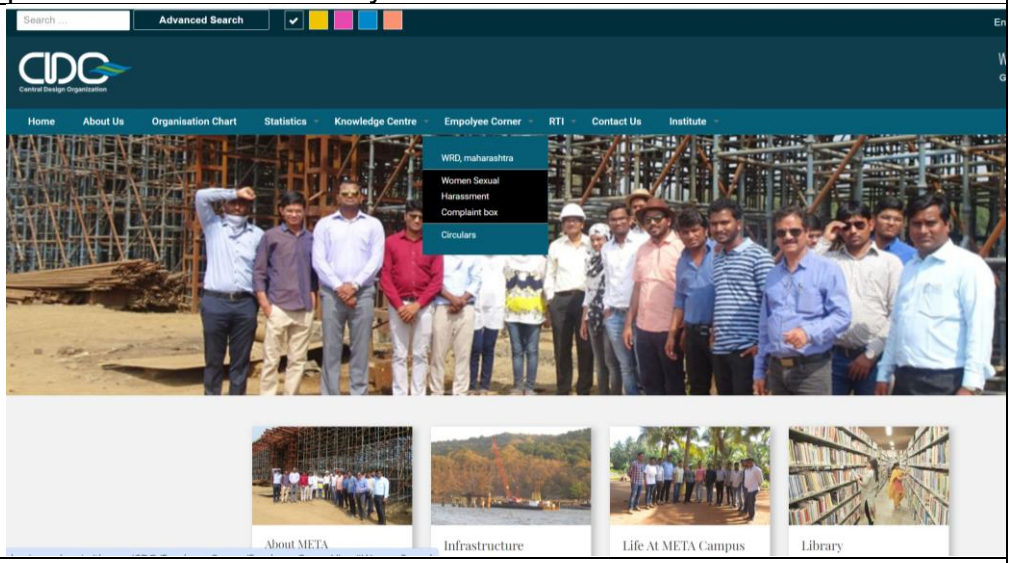
Requirement Description: The Sexual Harassment e-Box Module will provide a secure and anonymous platform for individuals to report incidents of sexual harassment. This module aims to facilitate a safe reporting mechanism and ensure that complaints are addressed promptly and appropriately.

Stimulus/Response sequences: When a user accesses the She-Box Module, they will find a form to submit their complaints anonymously. After submission, users will receive a confirmation message indicating that their report has been received, ensuring their privacy throughout the process.

Data Fields/Elements:

1. **She-Box Submission Form**
   - User Name (Optional Text Field)
   - Email Address (Optional Email Field)
   - Description of Incident (Text Area)
   - Date of Incident (Date Picker)
   - Submit Button (Button)

Requirement Name	Sexual Harassment e-Box (She - Box) Module
Requirement Description:	The Sexual Harassment e-Box Module will provide a secure and anonymous platform for individuals to report incidents of sexual harassment
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality o She Box

Trigger	when individuals access it to report incidents of sexual harassment anonymously.
Business Context:	The module provides a secure platform for anonymous reporting, encouraging individuals to come forward without fear of retaliation. It ensures prompt handling of complaints, fosters a supportive environment, and helps collect data to improve workplace safety policies which is handel by the site administrative .
User Screen	

7 KWDT

7.1 Introduction

The Krishna Water Disputes Tribunal (KWDT) was established to address the complex and longstanding disputes regarding the allocation and management of water resources from the Krishna River among the states of Maharashtra, Karnataka, and Andhra Pradesh. As water scarcity intensifies due to climate change and population growth, the tribunal plays a vital role in ensuring equitable distribution and sustainable management of this critical resource. Building on the foundational work of institutions like the Maharashtra Engineering Training Academy (META) and the Maharashtra Engineering Research Institute (MERI), the KWDT seeks to create a structured framework for resolving water-related conflicts while promoting collaborative governance.

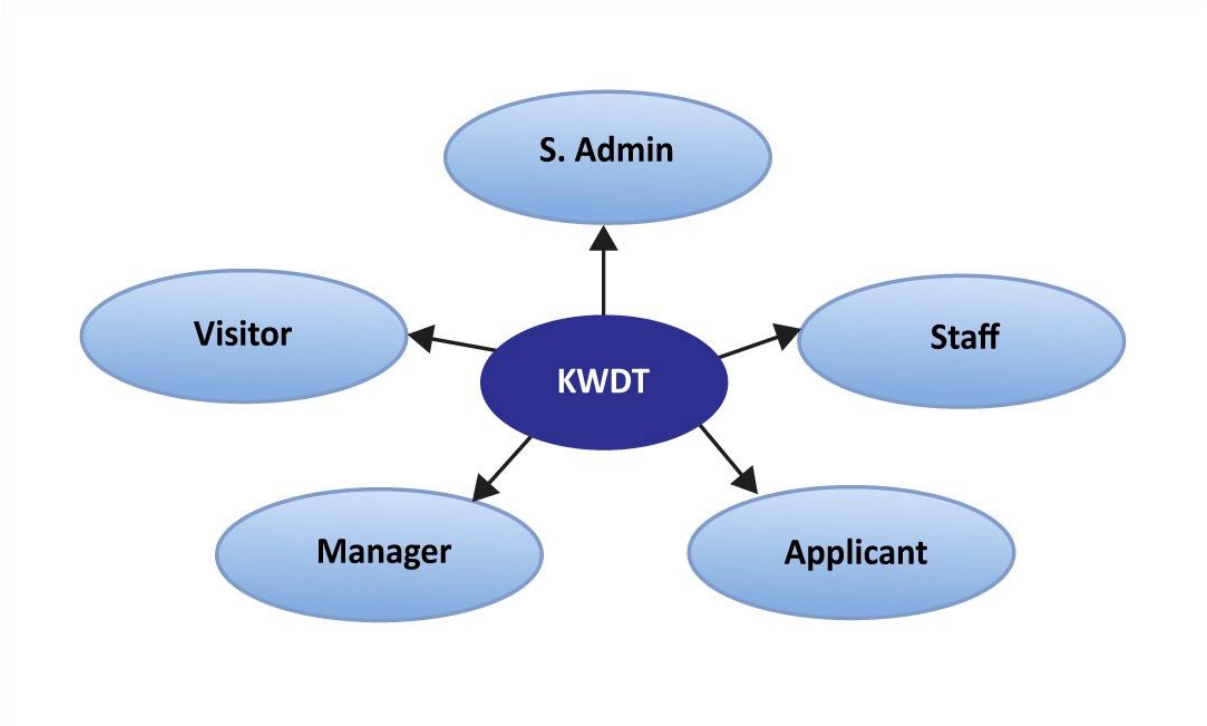
7.2 Business Context

The Krishna Water Disputes Tribunal (KWDT) was established to address the complex and longstanding disputes regarding the allocation and management of water resources from the Krishna River among the states of Maharashtra, Karnataka, and Andhra Pradesh. As water scarcity intensifies due to climate change and population growth, the tribunal plays a vital role in ensuring equitable distribution and sustainable management of this critical resource. Building on the foundational work of institutions like the Maharashtra Engineering Training Academy (META) and the Maharashtra Engineering Research Institute (MERI), the KWDT seeks to create a structured framework for resolving water-related conflicts while promoting collaborative governance.

The system will be developed to meet the functional and non-functional requirements as listed, with a focus on:

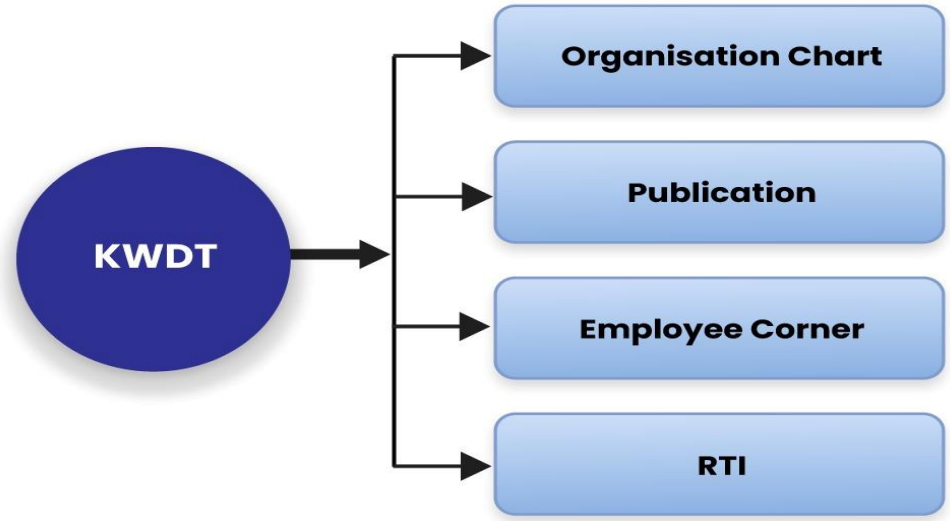
1. Easy navigation for users to access tribunal-related information.
2. Automation of content management to reduce manual intervention.
3. Interactive modules like the Media Gallery, Daily Data, and Publications to enhance transparency and accessibility.
4. Employee resources and RTI management for compliance and transparency.
5. Scalable features to accommodate future updates and expansions.

7.3 Application Architecture:-

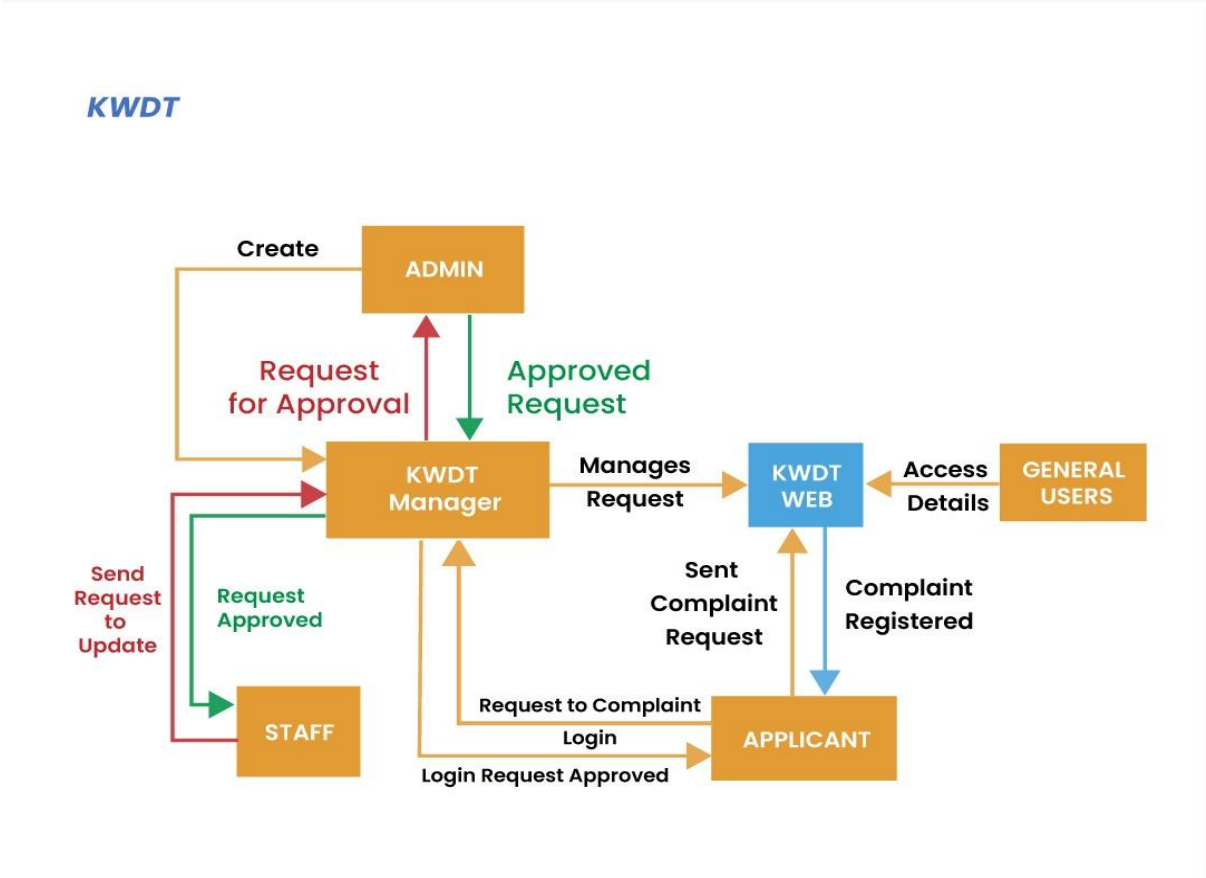


7.4 Current Flow

7.5 System Architecture:

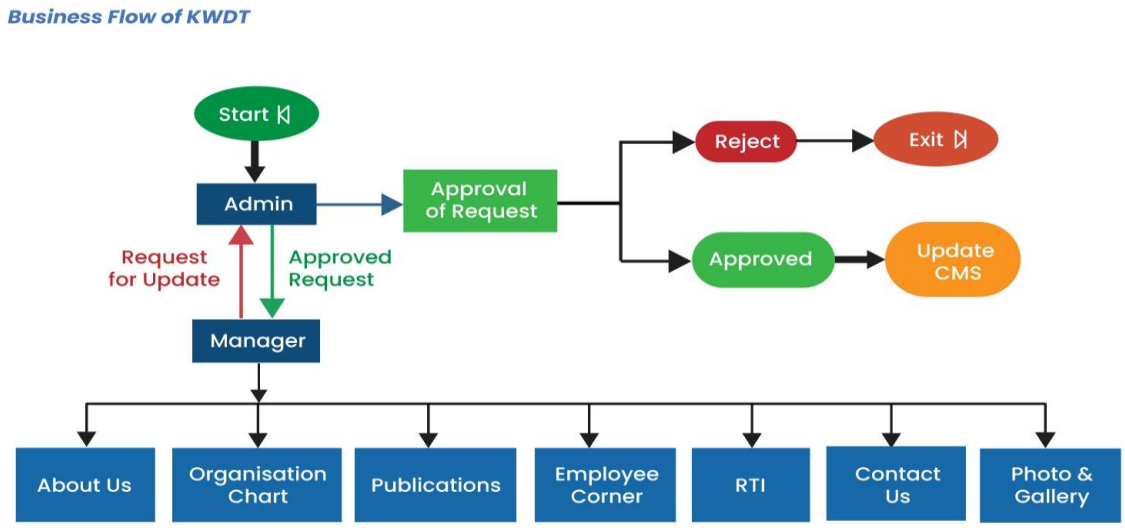


7.6 Solution Diagram:



7.7 Business Process Flow

This high-level explanation provides clarity on the roles, data flow, and processes involved in the system, which can then be broken down further into more detailed diagrams or business processes based on your software requirements.



7.8 Key Stakeholders and Roles:

a) **Admin User:** The user role will be assigned by the super admin. This user can manage modules as per permission given by super admin.

b) **General Visitors:** General visitors are the one who will visit the website in quest of information disseminated by the KWDT in public interest.

c) **Staff:** Staff members are internal users responsible for executing the day-to-day operations and maintaining the functionality of various systems within the organization. They will be assigned specific roles and permissions by the Admin to manage modules relevant to their duties, such as handling queries, managing documents, coordinating with other stakeholders, and ensuring smooth

- All interactions are logged in the **database**, ensuring the system can respond with accurate data to user requests.

7.9 Login and Security:

- Each user role logs in based on their role to ensure secure access and appropriate permissions for data access and updates.

7.10 Reporting & Maintenance:

- Reports are generated based on the activities of Admins and Staff and can be accessed by the Super Admin.

- Data updates happen continuously as users interact with the system by admin and manager only also keeping the entire database up-to-date.

workflows across department.

7.11 The Core Components:

- **KWDT Web Application** is the central system where all interactions happen. It connects users and roles to the data they need.
- **Database**: Stores all the critical data which is updated, retrieved, and processed by different user roles.

7.12 The Business Processes:

- **Admin Operations**:
  - Admins add, edit, or delete data, which is then updated in the web application and made available for General Users.
  - They receive updated data from the system.
- **Staff Operations**:
  - The Staff logs in to check, add, or update data as necessary.
  - The checked data is accessed and updated in the system, ensuring that the General Users get the most accurate information.
- **Manager Operations**:
    - Manager's will be login and can be able to edit / update the contents of their respective area which is assigned by admins.
- **General User Operations**:
  - General users search for data in the system and retrieve the necessary information.

7.13 Data Flow Explanation:

- The system revolves around the KWDT Web **Application**, where:
  - **Admins**: create the account for manager to login → System updates the database and reflects changes.
  - **Manager:** managers are eligible to edit/update the Data of contents in Meta web, for which they are assigned to do.
  - **Staff**: Accesses and updates the checked data → These updates are reflected in reports or data accessible by other staff and users who are at different office location and be connected with google geo location API.

- **General Users**: Search for and receive the required data from the system.

- All interactions are logged in the **database**, ensuring the system can respond with accurate data to user requests.

Login and Security:

- Each user role logs in based on their role to ensure secure access and appropriate permissions for data access and updates.

Reporting & Maintenance:

- Reports are generated based on the activities of Admins and Staff and can be accessed by the Super Admin.
- Data updates happen continuously as users interact with the system, keeping the entire database up-to-date.

7.14 System Architecture

7.15 A. Hierarchical Model Structure:

The hierarchical model can be split into **three main layers**:

- **Application Logic Layer**
- **User Interface Layer**
- **Server/ cloud API Layer.**
- **Data Storage Layer**

Each layer will have specific responsibilities and roles, as described below.

B. User Interface Layer (Presentation Layer)

This layer handles **user interactions**. It includes various user roles that interact with the system based on the permissions assigned to them.

Users:

1. **Application Layer**:
   - Highest level of access and all content of web of META which Leads by content- Managers
2. **Admin**
   - Handles tasks like managing data, assign the role of manger for each content within the boundaries set by the Admin.
3. **Staff**

- Focuses on validating, checking, and updating data for internal use.

4. **General Users**
    - Public-facing role, primarily to search and retrieve data from the system.

C. **Cloud Server (API) Layer**

- **API Gateway**:
    - Acts as a bridge between the web application and the data storage.
    - Manages requests and responses between the application and the database.
    - Ensures security, scalability, and performance optimization.
- **Functions**:
    - Request Validation
    - Data Security and Encryption
    - Load Balancing for high availability
    - Handling external data sources (if integrated with external services)

D. Data Storage Layer (Database Layer)

This layer is responsible for **data storage** and managing the interaction between the application and the stored data.

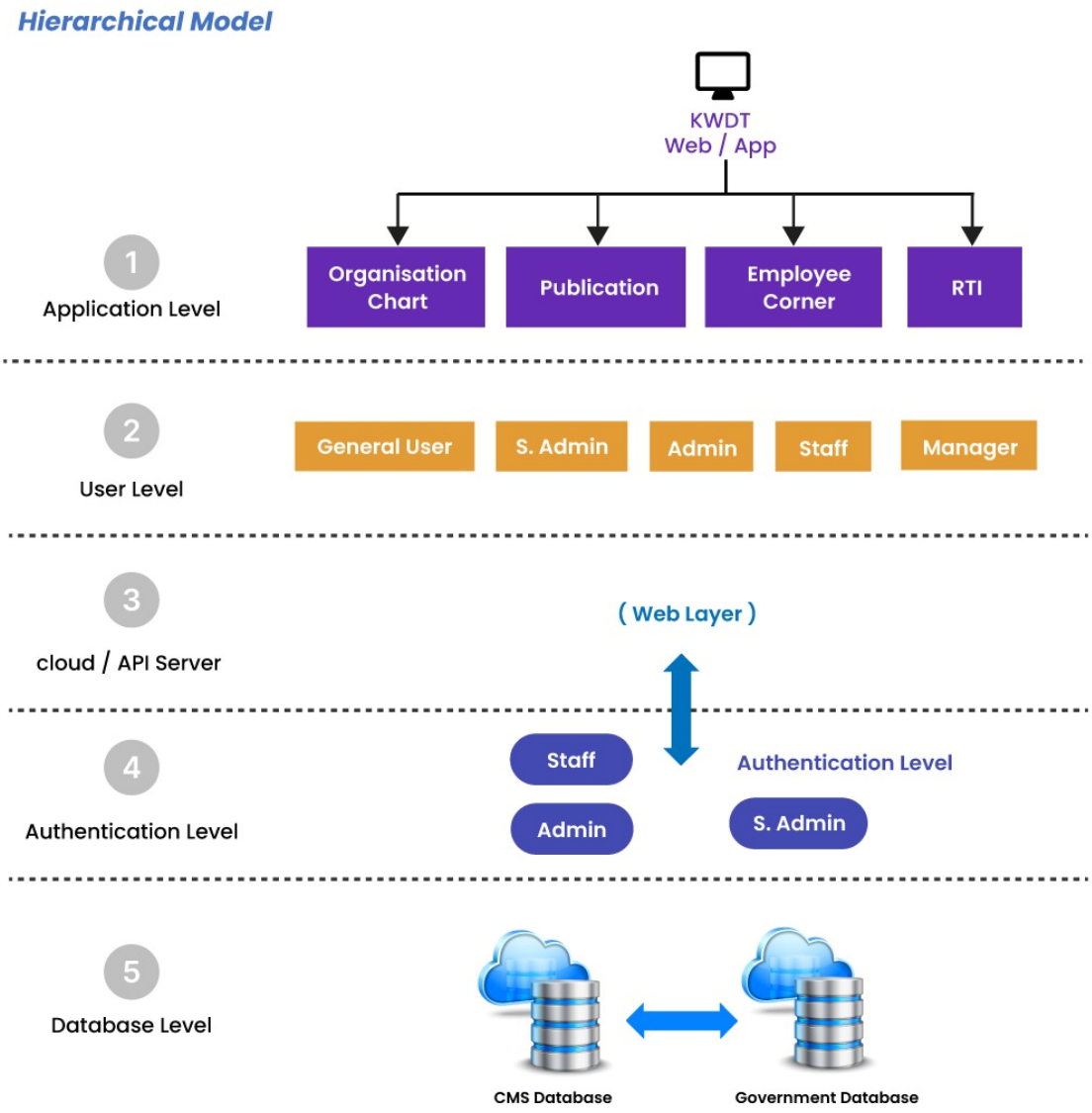
Data Storage Components:

1. **Database (Central Data Repository)**
    - Stores all data, including:
        - User information and permissions
        - Records for reporting, updates, and data checks
        - Data accessed by General Users
    - Provides the necessary data based on requests from the web application.
2. **Data Access and Management**
    - Controlled by the web application.
    - Only specific roles (Super Admins, Admins, Staff) can add, modify, or delete data.
    - General Users can search and view data, but cannot modify it.

7.16 Stakeholder's suggestion

This document is primarily intended for KWDT Officials, & the user. to understand the functionality of department. The various audience targeted in the document are – KWDT Official users, developers, designers, testers, business development team and project managers.

7.17 Hierarchical Model



7.18 Audience-specific Reading Recommendations:

KWDT Officials: Focus on sections covering product scope, functionality, user characteristics, and specific as well as non-functional requirements.

Developers: Concentrate on the functional and non-functional requirements specifications to understand what needs to be built.

Designers: Pay attention to user interface details and design constraints for a cohesive user experience.

Testers: Focus on the functional and non-functional requirements to ensure comprehensive test coverage.

Business Development Team: Review the entire document to understand the full scope and objectives of the project.

Project Managers: Focus on the overall project description and external user interfaces to ensure proper alignment with stakeholder expectations and project goals.

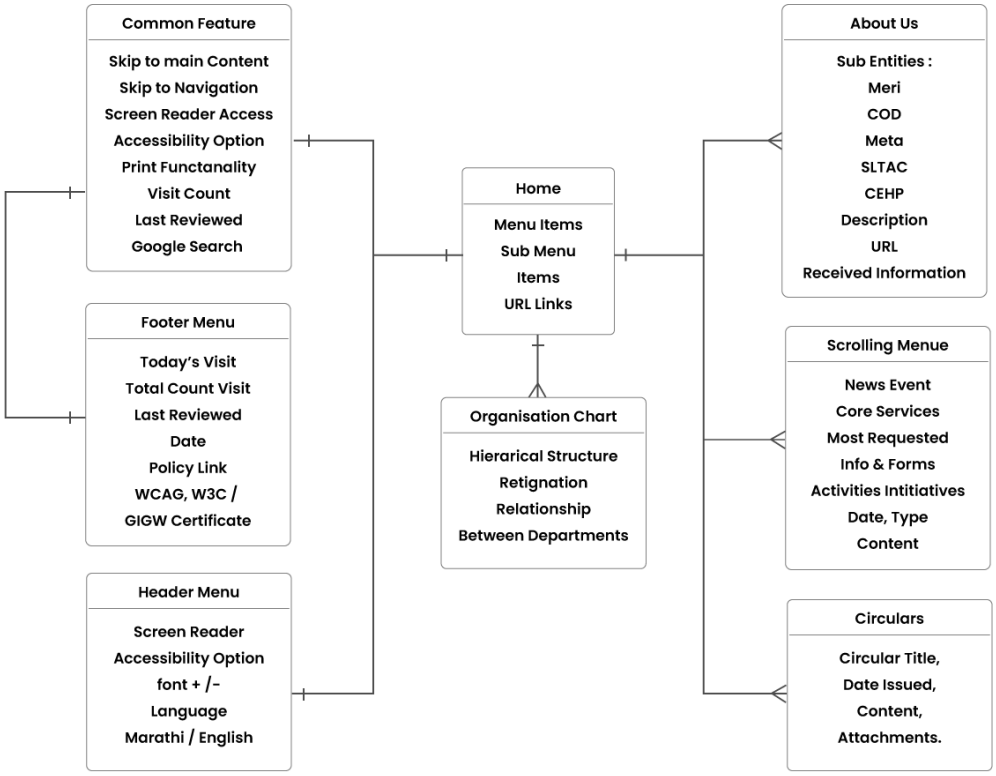
7.19 Navigation Structure

S. No.	Tabs/Links	Module	Menu Location
1.	Common Features • Skip to Main Content • Skip to Navigation • Screen Reader Access [CMS Page] • Accessibility options [Dynamic Page] o Font +/- [Functionality] o Color option [Functionality] Print [Functionality] • Todays Visit Count, Total visit Count, Date of last reviewed [Dynamic Page] • Search within site [Search Website With Google Customized Search] • Site Map • Marathi/English Version of each webpage	Dynamic + CMS	Common Features
2.	Home	Dynamic	Main Menu
3.	About Us • vision • Mission • organisational chart • Life at META Campus	Content (CMS)	Main Menu
4.	Training : • General	Content (CMS)	Main Menu

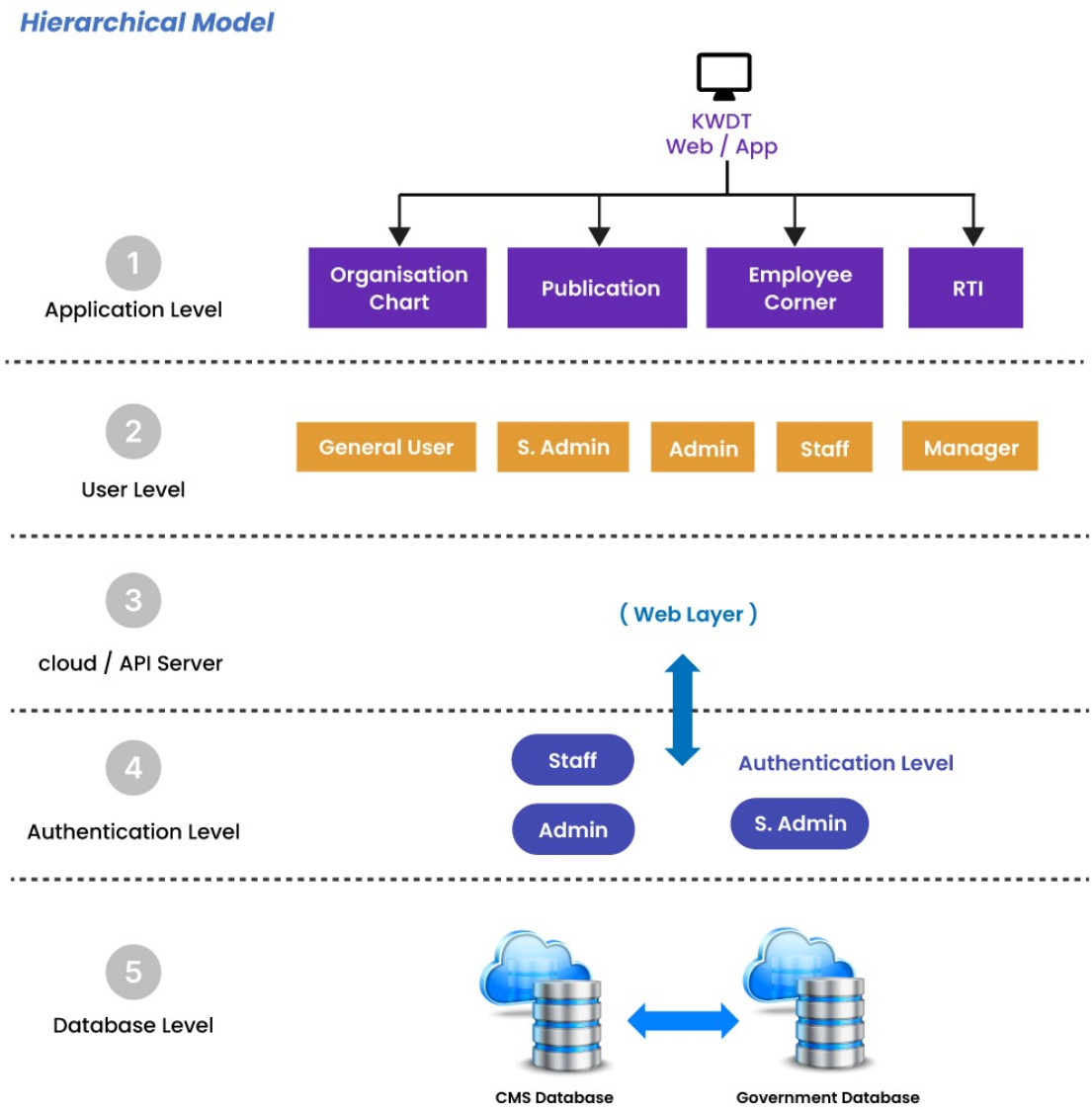
	• RTC • ATP • Infrastructure • Library • Downloads		
5.	Professional Exams : • General • Syllabus • Notification • Registration • Result • Downloads	Content (CMS)	Main Menu
6.	RTI • Citizen Charter	Content (CMS)	Main Menu
7.	Contact Us: • Details Of Contacts	Content (CMS)	Main Menu
8.	Header Menu • Screen reader access • Accessibility option • Font+/- • Google custom search • Marathi/ English • Site map • Social media icon • Login.	Content (CMS)	Main menu
9.	Footer menu		

	• Today's visit count • Total visit count • Date of last Reviewed • Link to different policy pages • Relevant logos too • Certificate- compliance of the latest-WCAG, W3C, GIGW		

7.20 Entity Relationship Diagram

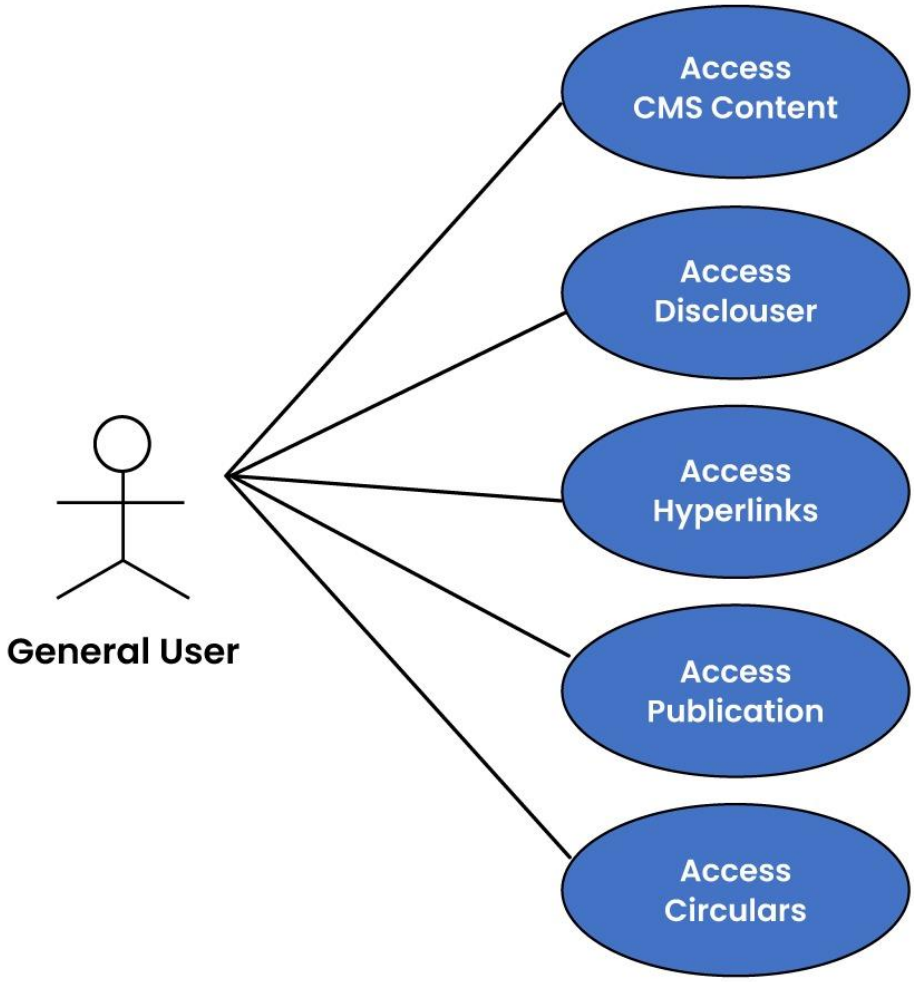


7.21 Hierarchical Architecture



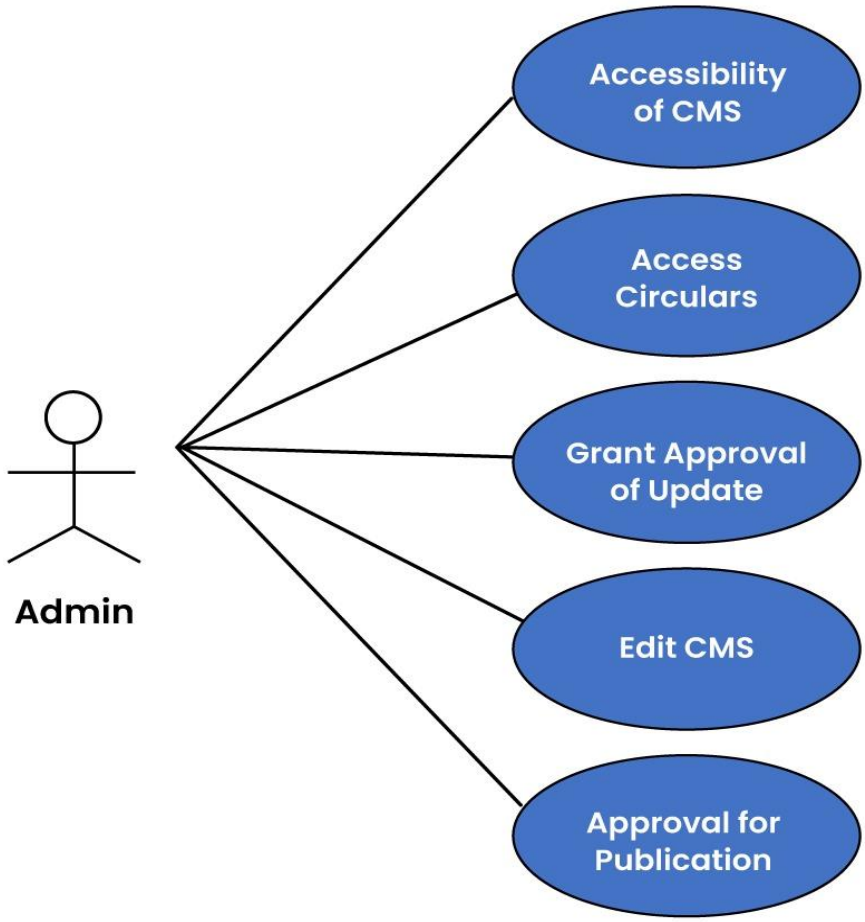
7.22 Use Cases

The proposed flow has been given for general public for visiting the website for viewing general information present on the website and the Administration part for maintaining the website.



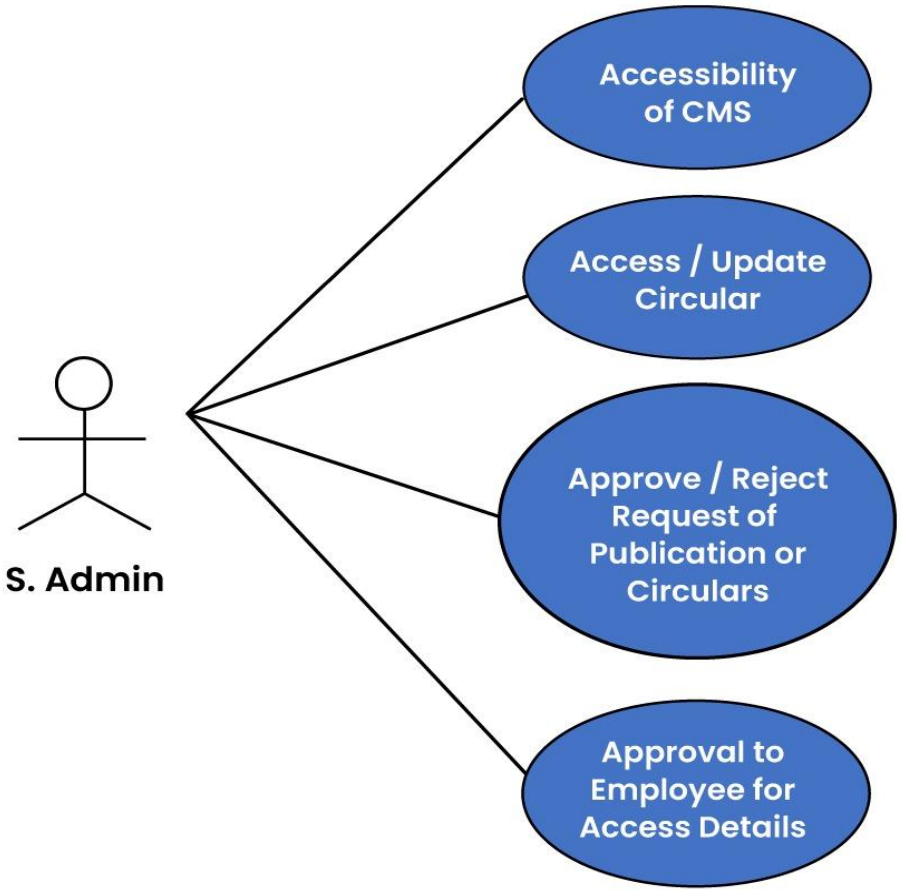
7.23 Use case for Admin:

The Proposed Flow has been given for Admin for handling website ‘s contents and administrative part for maintaining the website’s content of relevant departments .



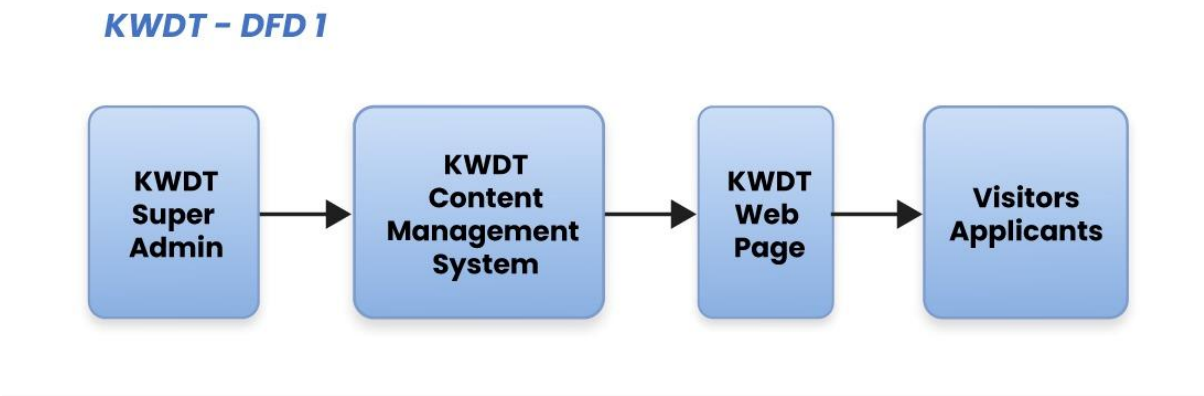
7.24 Use case for super Admin:

The Proposed Flow has been given for super -Admin for handling website ‘s contents and administrative part for maintaining the website’s content.



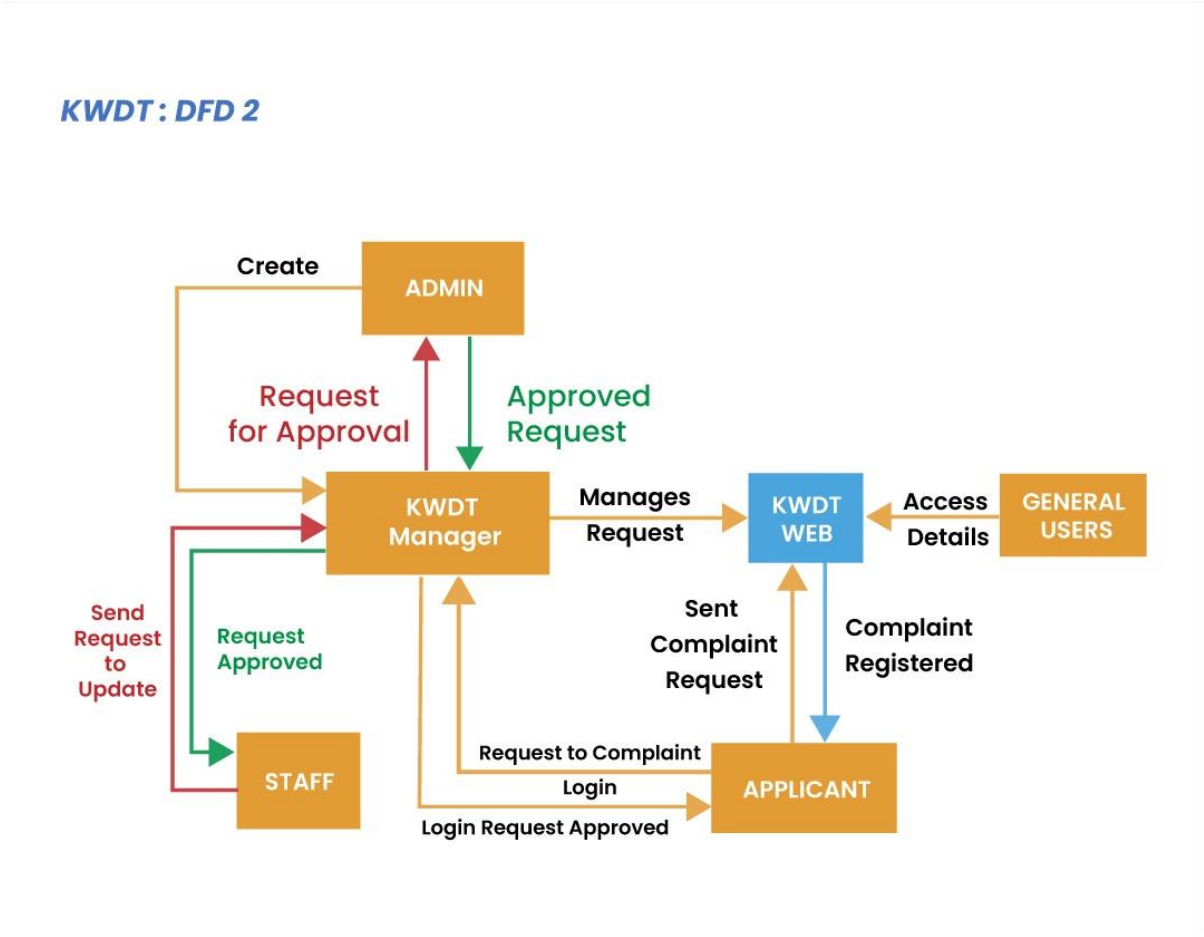
7.25 Data Flow Diagrams

DFD – Level 1



The diagram showcases a straightforward flow of information, starting from the **KWDT Super Admin**, who manages content in the **CMS**. This content is then reflected on the **KWDT Web Page**, which is accessed by **Visitors/Applicants** for various purposes

<u>DFD – Level 2</u>



7.26 Functional Requirements

Detailed Requirement

7.27 Requirement ID: (KWDT)FR-1

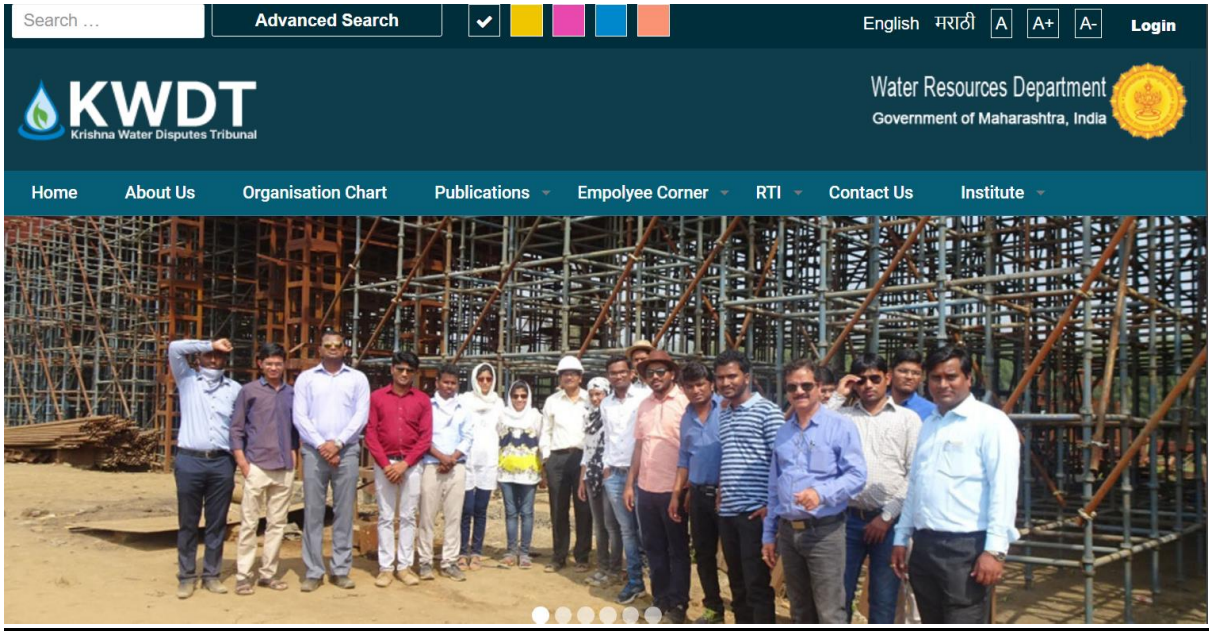
Requirement Name: Home (Menu Navigation)

• Requirement Description: This would be provided under the Menu Bar of the Home Page. The Mouse hover effect is given to its CSS Style. Stimulus/ Response Sequences: The user will direct to the main page of the website, on once clicking on the menu.

Data Fields/Elements: Not Required User Screen:

HOME SCREEN – Desktop View

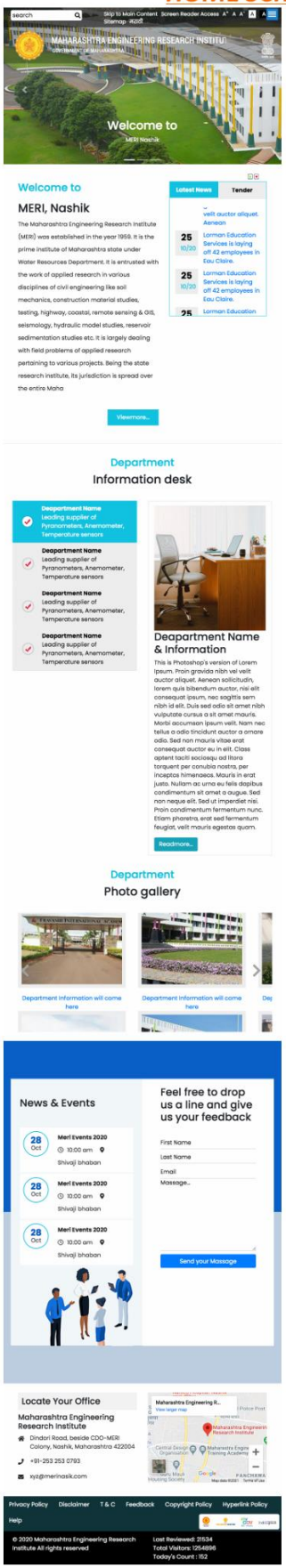
HOME SCREEN – Mobile View

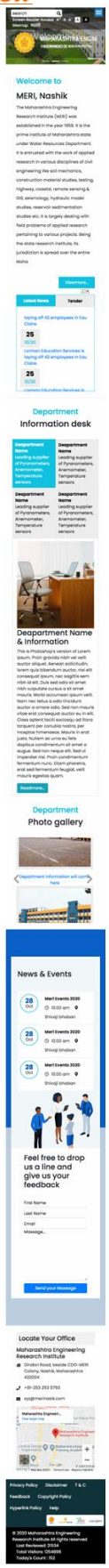


Requirement Name:	Home
Requirement Description:	The user will direct to the main page of the website, on once clicking on the menu
Primary Actor:	User, Administrative
Main Success Scenario:	Screen Containing following Functionality • Home
Trigger	when the user interacts with the Home menu item by hovering over it, followed by a click action to access the main page of the website.

Business Module:	Home page will display the information of KWDT
User Screen	

HOME SCREEN – Tablet & Mobile View





7.28 Requirement ID: (KWDT)FR-2

Requirement Name: About Us

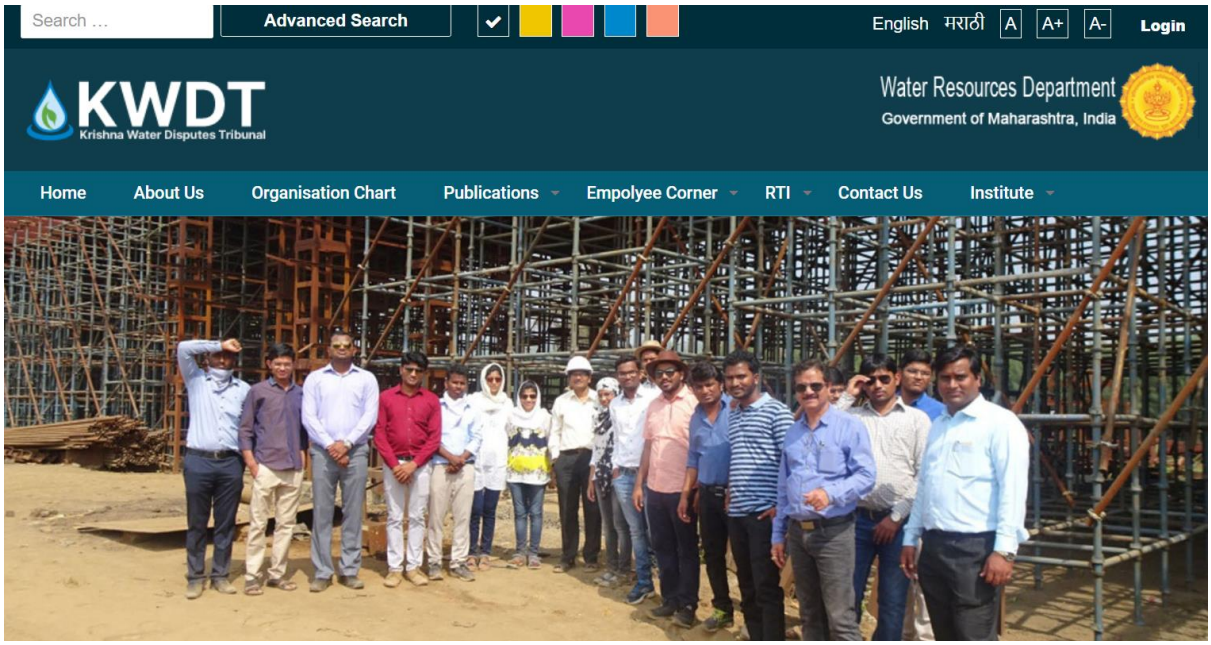
Requirement Description: The menu for About Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style.

This will help the department to give the brief introduction about The Krishna Water Disputes Tribunal (KWDT). This will be a content-based CMS page managed by the Site Administrator. Stimulus/ Response Sequences: On moving the cursor over the About Us tab, the following sub-menus will appear on the drop down.

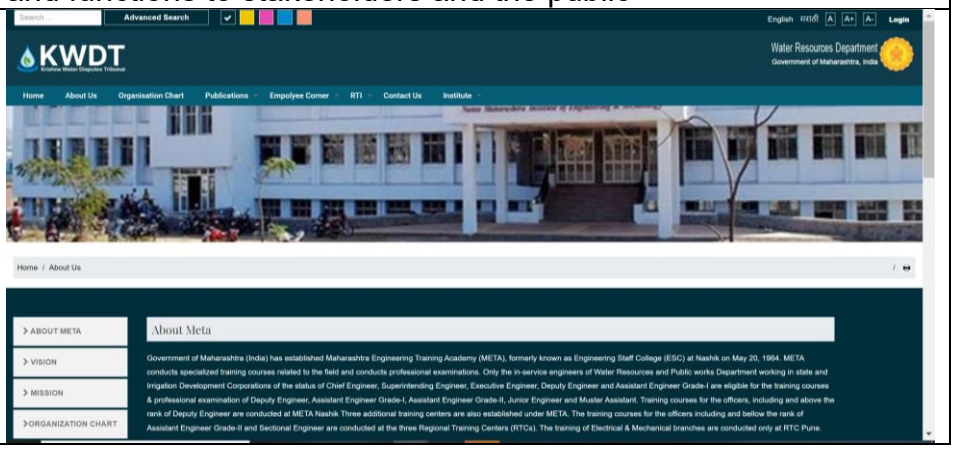
Data Fields/ Elements:

About Us

- General Information
- Work Profile



Requirement Name:	About Us
Requirement Description:	This will help the department to give the brief introduction about The Krishna Water Disputes Tribunal (KWDT).
Primary Actor:	User, Administrative
Main Success Scenario:	Screen Containing following Functionality • General Information • Work Profile

Trigger	when a user moves their cursor over the About Us menu item on the Home Page, prompting the dropdown menu to display the sub-menu options
Business Module:	The goal of improving user experience and accessibility of information regarding The Krishna Water Disputes Tribunal (KWDT). By offering a well-structured and informative About Us section, the department can effectively communicate its mission and functions to stakeholders and the public
User Screen	

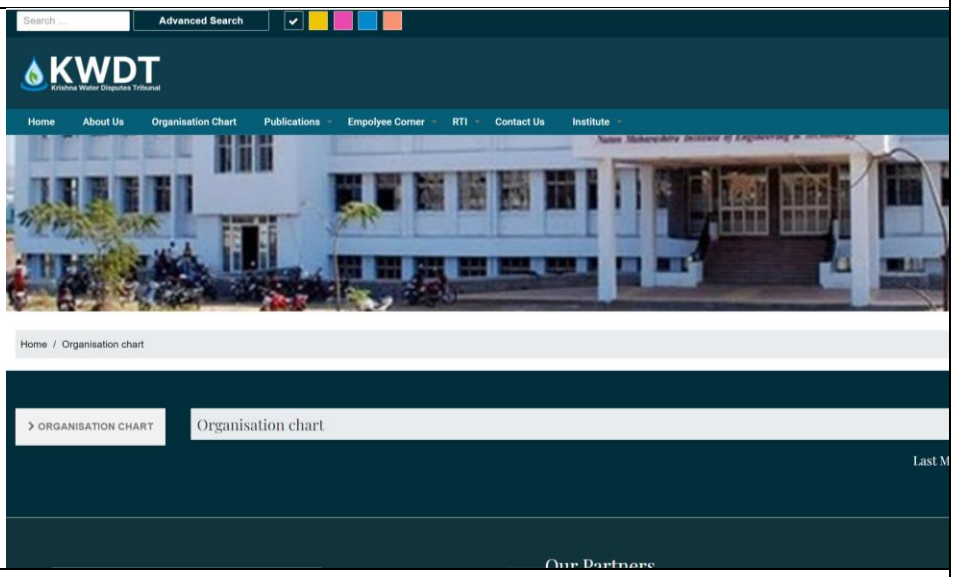
7.28.1 Requirement ID: (KWDT)FR-3

Requirement Name: Organisation Chart

• **Requirement Description:** The menu for Organization Chart would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the Organization Chart in Krishna Water Disputes Tribunal (KWDT). This will be a content-based CMS page managed by the Site Administrator.

Data Fields/ Elements: The categories under Organisation Chart will be managed through CMS i.e. Content Management System.

Requirement Name:	Organisation Chart
Requirement Description:	This will help the department to give the Organization Chart in Krishna Water Disputes Tribunal (KWDT)
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality • Organisation Chart

Trigger	When a user hovers over the Organisation Chart menu item in the main Menu Bar, prompting the display of the Organisation Chart content
Business Module:	The Organisation Chart module provides a clear visual representation of the Krishna Water Disputes Tribunal's structure, facilitating transparency and communication. Managed via a CMS, it allows for easy updates, ensuring stakeholders have access to current organizational information.
User Screen	

7.28.2 Requirement ID: (KWDT)FR-4

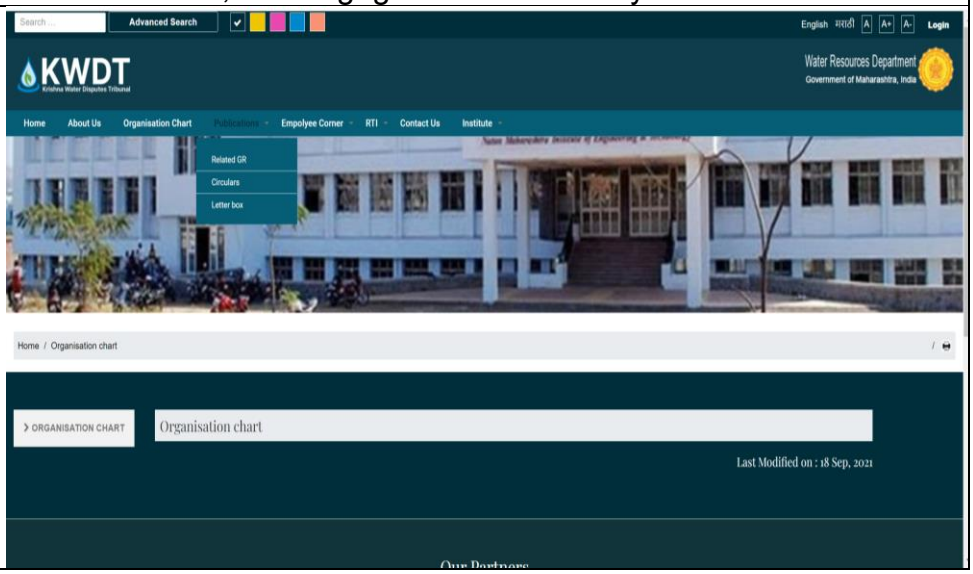
Requirement Name: Publications and Circulars Module

• **Requirement Description:** When a user accesses the Publications and Circulars Module, they will see three sections: Related GR, Circulars, and Letter Box. Clicking on the Related GR section will display a list of documents available in PDF format, while selecting the Circulars section will show a table with details that can be downloaded in Excel format. The Letter Box will allow users to submit feedback or queries.

Data Fields/ Elements:

- **Related GR** (Static Page)
  - Document Title
  - Date Issued
  - Description
  - Download Link (PDF)
- **Circulars** (Static Page)
  - Circular Title
  - Date Issued
  - Reference Number
  - Description
  - Download Table (Excel)

- **Letter Box** (Static Page)
  - User Name
  - Email Address
  - Feedback/Query
  - Submit Button

Requirement Name	Publications and Circulars Module
Requirement Description:	the Publications and Circulars Module, they will see three sections: Related GR, Circulars, and Letter Box. Clicking on the Related GR section will display a list of documents available in PDF format, while selecting the Circulars section will show a table with details that can be downloaded in Excel format
Primary Actor:	Administrative, User
Main Success Scenario:	Screen Containing following Functionality • **Related GR** • **Circulars** • **Letter Box**
Trigger	Publications and Circulars Module is accessed when a user clicks on the corresponding menu option on the home page, leading them to the module's main interface
Business Module:	This module serves as a centralized hub for users to access important documents related to the Krishna Water Disputes Tribunal, including government resolutions (GR), circulars, and a feedback mechanism. By providing downloadable resources and a platform for user interaction, it enhances transparency, communication, and engagement handled by the Administrative
User Screen	

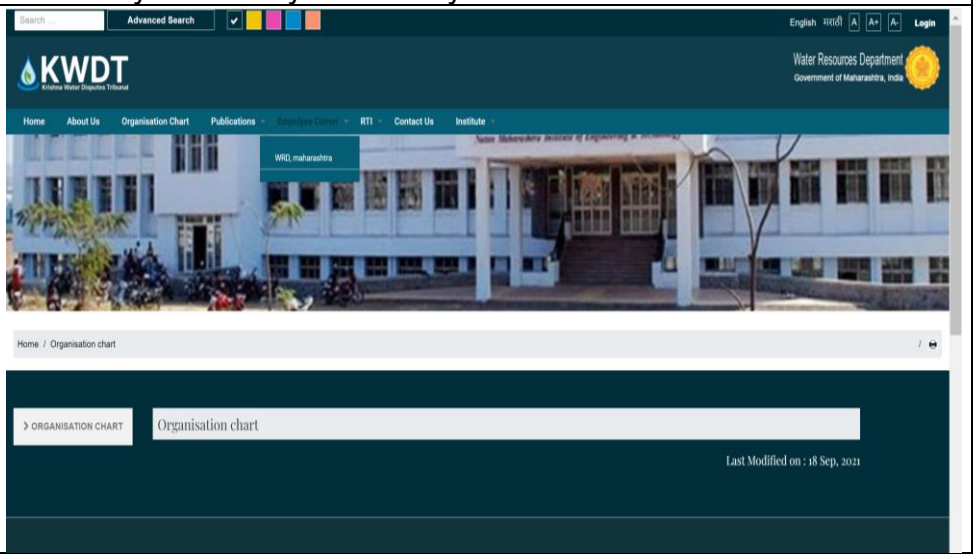
7.28.3 Requirement ID: (KWDT)FR-5

Requirement Name: Employee Corner Module

• **Requirement Description:** The Employee Corner Module will serve as a static page that provides essential resources for employees of the Water Resources Department (WRD) in Maharashtra. It will include hyperlinked sections to the PORTAL Employee Corner, a Women Sexual Harassment Complaint Box linked to the Shebox site, and a table of circulars with relevant details that can be downloaded in Excel format.
Stimulus/Response sequences: When a user accesses the Employee Corner, they will see a hyperlinked menu directing them to the PORTAL Employee Corner. Clicking on the Women Sexual Harassment Complaint Box will redirect them to the Shebox site. Additionally, selecting the Circulars section will display a table of relevant details, with an option to download the data in Excel format.
Data Fields/Elements:

- Hyperlinked Menu to PORTAL Employee Corner (Link)
- Women Sexual Harassment Complaint Box (Link)
- Circulars Table (Static Page)
  - Circular Title
  - Date Issued
  - Reference Number
  - Description
  - Download Table (Excel)

Requirement Name	Employee Corner Module
Requirement Description:	It will include hyperlinked sections to the PORTAL Employee Corner, a Women Sexual Harassment Complaint Box linked to the Shebox site, and a table of circulars with relevant details that can be downloaded in Excel format
Primary Actor:	
Main Success Scenario:	Screen Containing following Functionality o Hyperlinked Menu to PORTAL Employee Corner (Link) o Women Sexual Harassment Complaint Box (Link) o Circulars Table (Static Page) • Circular Title • Date Issued • Reference Number • Description • Download Table (Excel)
Trigger	Employee Corner Module is activated when a user clicks on the "Employee Corner" menu option on the home page, leading them to the module's dedicated page
Business Module:	This module is designed to provide vital resources and information for employees of the Water Resources Department (WRD) in Maharashtra. By facilitating easy access to the PORTAL Employee Corner, a dedicated complaint mechanism for harassment, and a downloadable circulars table, it aims to promote employee welfare, enhance communication, and ensure transparency within the

	department. This centralized resource hub empowers employees with the necessary tools and information to perform their roles effectively and safely. Handel by the site Administrative.
User Screen	

7.28.4 Requirement ID: (KWDT)FR-6

Requirement Name: RTI Content.

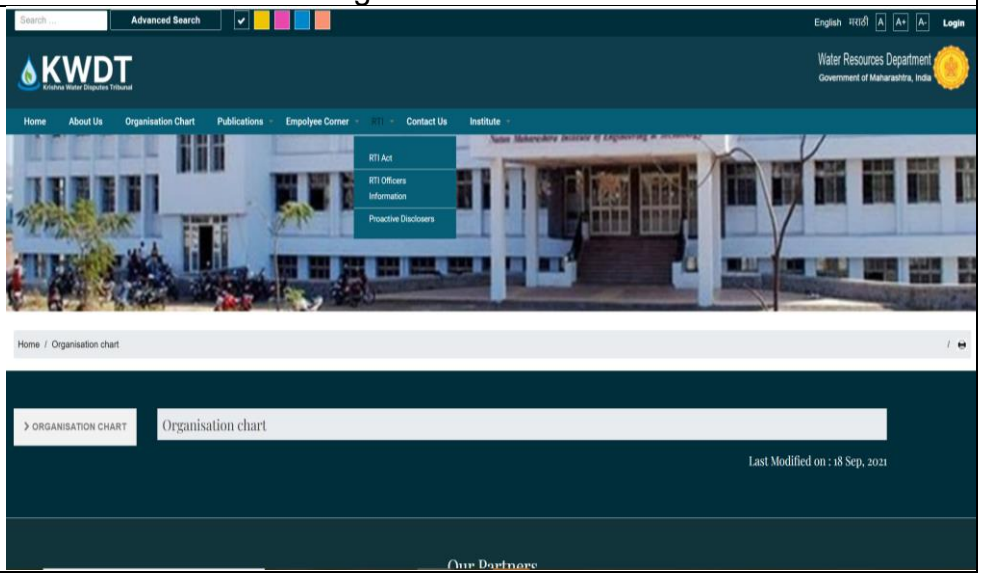
• **Requirement Description:** RTI menu will be a content, Page. The KWDT Administrator will manage RTI Content.

Stimulus/ Response Sequences: On a click of RTI, user will view the RTI Details.

Data Fields/ Elements:

1) RTI
   i. RTI ACT
   ii. RTI Officer Info.
   iii. Proactive Discloser.
2) Citizen Charter

Requirement Name	RTI Content.
Requirement Description:	RTI menu will be a content, Page
Primary Actor:	The KWDT Administrator will manage RTI Content
Main Success Scenario:	Screen Containing following Functionality ○ RTI 1) RTI ACT 2) RTI Officer Info. 3) Proactive Discloser. ○ Citizen Charter
Trigger	activated when a user clicks on the "RTI" menu option on the home page, directing them to the RTI details page.

Business Context:	The RTI Content Module provides essential information about the Right to Information Act, RTI officer details, and proactive disclosures, enhancing transparency and accountability within the KWDT. Managed by the KWDT Administrator, it empowers citizens to access vital information, supporting civic engagement and informed decision-making
User Screen	

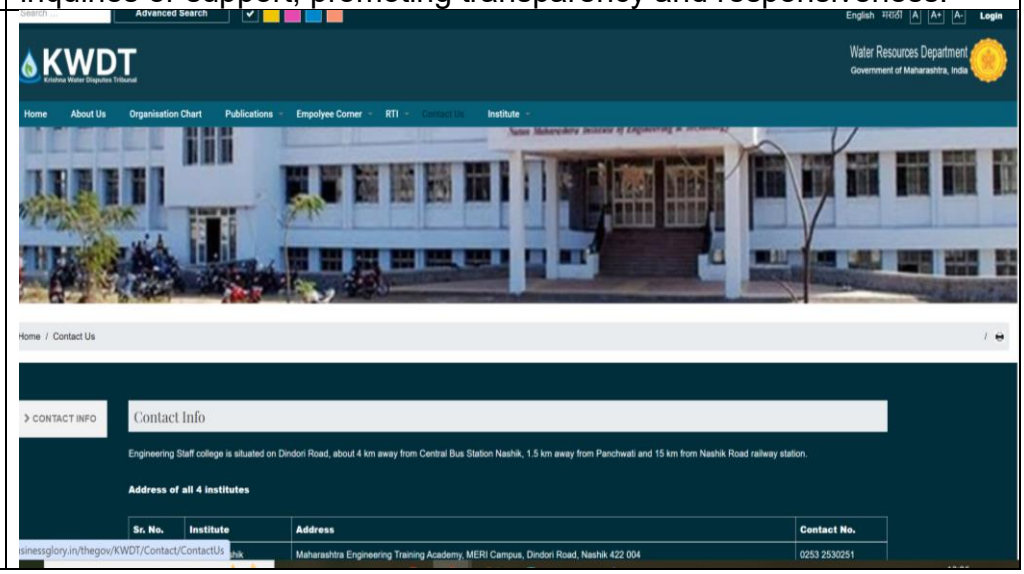
7.28.5 Requirement ID: (KWDT)FR-7

Requirement Name: Contact Us

• **Requirement Description:** The menu for Contact Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the detail about contact details of KWDT. This will be a content-based CMS page managed by the Site Administrator.

Data Fields/ Elements: The categories under Contact Us will be managed through CMS i.e. Content Management System.

Requirement Name	Contact Us
Requirement Description:	This will help the department to give the detail about contact details of KWDT
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality • Contact us
Trigger	the "Contact Us" menu item in the main navigation bar, the page displaying contact information for KWDT is accessed.
Business Context:	The Contact Us module facilitates communication between KWDT and its stakeholders by providing essential contact details. This content-

	managed section ensures users can easily find and reach out for inquiries or support, promoting transparency and responsiveness.
User Screen	

7.28.6 Requirement ID: (KWDT)FR-8

Requirement Name: Media Gallery

• **Requirement Description:** Content comes from the Video/Photo management Module. We will develop an advanced Media gallery module to allow website team to publish best quality photos/videos on the website. Some of the unique features of Media gallery module will be:

o Will allow uploading of Image/Video Name, Image/Video, Image/Video Description and Krishna Water Disputes Tribunal (KWDT)tags for each image/Video.

o Will have facility to view/add/edit/delete Images/Video in JPEG, GIF, PNG and FLV format.

o Will allow review, editing and publishing layers to ensure correctness of the content.

Requirement Name:	Media Gallery
Requirement Description:	Content comes from the Video/Photo management Module. We will develop an advanced Media gallery module to allow website team to publish best quality photos/videos on the website
Primary Actor:	This will manage by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality • Media Gallery
Trigger	user accesses the "Media Gallery" section, they will be presented with a gallery of photos and videos related to KWDT.
Business Context:	KWDT's online presence by showcasing high-quality multimedia content. It enables the website team to efficiently manage and publish visual materials, ensuring that stakeholders have access to relevant and

	engaging resources. This promotes transparency and fosters a connection with the community.
User Screen	

7.28.7 Requirement ID: (KWDT) FR-9

Requirement Name: Daily Data

• **Requirement Description:** The Daily Data menu will be accessible from the main Menu Bar located on the Home Page. This specific tab will display information pertaining to Daily Rainfall (Conventional), Daily River Gauge (Conventional), and Dam Storage Data. The Daily Data section is further categorized into submenus. Some of these submenus will be managed through the Content Management System (CMS), while others will operate dynamically.

o **Daily Rainfall (Conventional):** Daily Rainfall Data in monsoon season measured manually at Standard Rain gauge Stations – SRG. Collected Data will be provided by the department and we will show that data into website with graphical representation. Data will be searched based on different criteria.

- Maximum Rainfall
- Minimum Rainfall
- Cumulative Rainfall till date for this year (mm)
- Cumulative Rainfall till same date in previous year (mm)
- Query based search

o **Daily River gauge (Conventional):** Daily River gauge (River Discharge) Data in monsoon season measured manually at River Gauging sites – GD Sites. All River gauge observations are made at 08:30 hrs. IST daily. This data is instantaneous data. Collected Data will be provided by the department and we will show that data into website with graphical representation. Data will be searched based on different criteria.

- Maximum River Discharge
- Minimum River Discharge
- Query based search

o **Dam Storage Data:** User can see Water Storage Reports for both today and previously recorded Data. Source of this data is official website of Water Resources Department, Maharashtra.

- On Click User can see todays and previous Water Storage Data

Data Fields/ Elements: The categories under Daily data will be managed through Daily Data Module.

Daily Data

o Daily Rainfall (Conventional)
o Daily River gauge (Conventional)
o Dam Storage Data

Requirement Name:	Daily Data
Requirement Description:	This specific tab will display information pertaining to Daily Rainfall (Conventional), Daily River Gauge (Conventional), and Dam Storage Data
Primary Actor:	This will manage by the Site Administrator.

Main Success Scenario:	Screen Containing following Functionality • Daily Data
Trigger	"Daily Data" menu item from the main menu bar, they will be taken to a section displaying various daily data related to rainfall, river gauge measurements, and dam storage
Business Context:	The Daily Data module provides critical, real-time information on rainfall, river gauge readings, and dam storage levels, supporting effective water resource management handled by the site administrative. By making this data accessible and visually engaging, KWDT promotes transparency, enhances public trust, and enables informed decision-making among stakeholders.
User Screen	

7.28.8 Requirement ID: (KWDT)FR-10

Requirement Name: Events

• **Requirement Description:** Events Information will be provided on the home page of the KWDT website. The respective module will show the data related to the Events. This module will help department in managing details of their upcoming Events, past events, events catalogue. We will develop this module with the following features:

o Add / Edit / Deactivate Events through secure online control panel.

Manage Events Details including the following:

Events General Information.

Schedule.

Registration information.

Download documents.

Manage Events details including the following:

• Upload Events Photos.
• Upload Post Events documents.
• Upload Events details.

Requirement Name:	Events
Requirement Description:	Events Information will be provided on the home page of the KWDT website. The respective module will show the data related to the Events.
Primary Actor:	This will manage by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality 1. Events General Information. 2. Schedule. 3. Registration information. 4. Download documents. 5. Manage Events details including the following: • Upload Events Photos. • Upload Post Events documents. • Upload Events details
Trigger	A user clicks on the "Events" tab in the main menu of the KWDT website.

Business Context:	The Events module enables KWDT to efficiently manage and share information about upcoming and past events. Which is maintained by the KWDT administrative.This functionality enhances user engagement, facilitates participation, and keeps stakeholders informed about departmental activities, promoting transparency and community involvement.
User Screen	

7.28.9 Requirement ID: (KWDT)FR-11

Requirement Name: Footer Links

• **Requirement Description:** The links that appear at the bottom of every page are referred as Footer Links. These are useful for the providing the useful and miscellaneous link of the website.

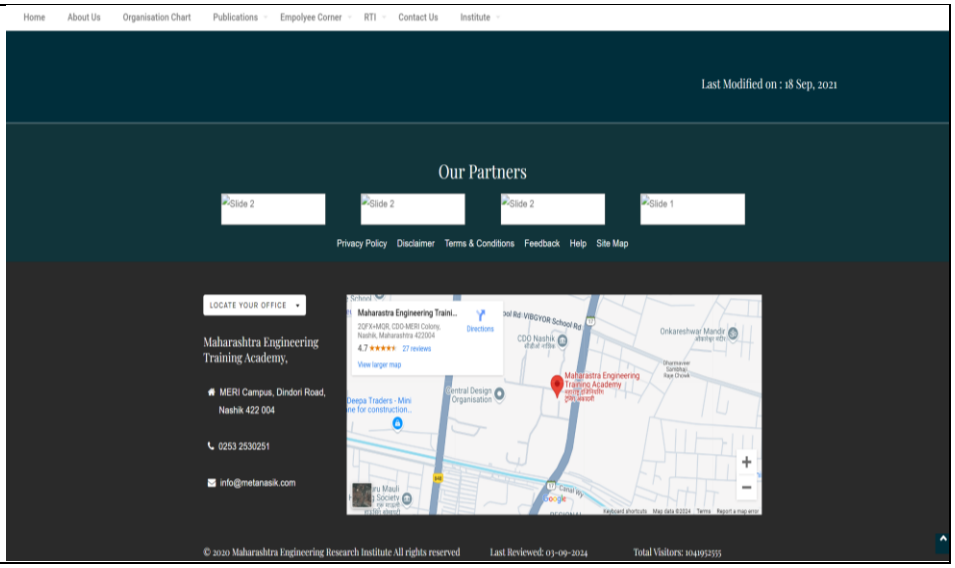
Stimulus/ Response Sequences: On a click of the respective footer link, user can view the details.

Data Fields/ Elements: The following modules will necessary be cover under the Archive

- Privacy Policy
- Disclaimer
- Terms & Conditions
- Feedback
- Help
- Policies

Site Map

Requirement Name:	Footer Links
Requirement Description:	These are useful for the providing the useful and miscellaneous link of the website.
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality ➢ Privacy Policy ➢ Disclaimer ➢ Terms & Conditions ➢ Feedback ➢ Help ➢ Policies ➢ Site Map
Trigger	A user clicks on any of the footer links displayed at the bottom of the KWDT website.
Business Context:	The Footer Links enhance user navigation by providing quick access to essential information such as privacy policies, feedback options, and terms of use. This fosters transparency and ensures users can easily find important resources related to the KWDT website. Maintained (add, update, delete) by the Site Administrative

User Screen	

User Screen	

7.28.10 Requirement ID: (KWDT)FR-12

Requirement Name: Latest News

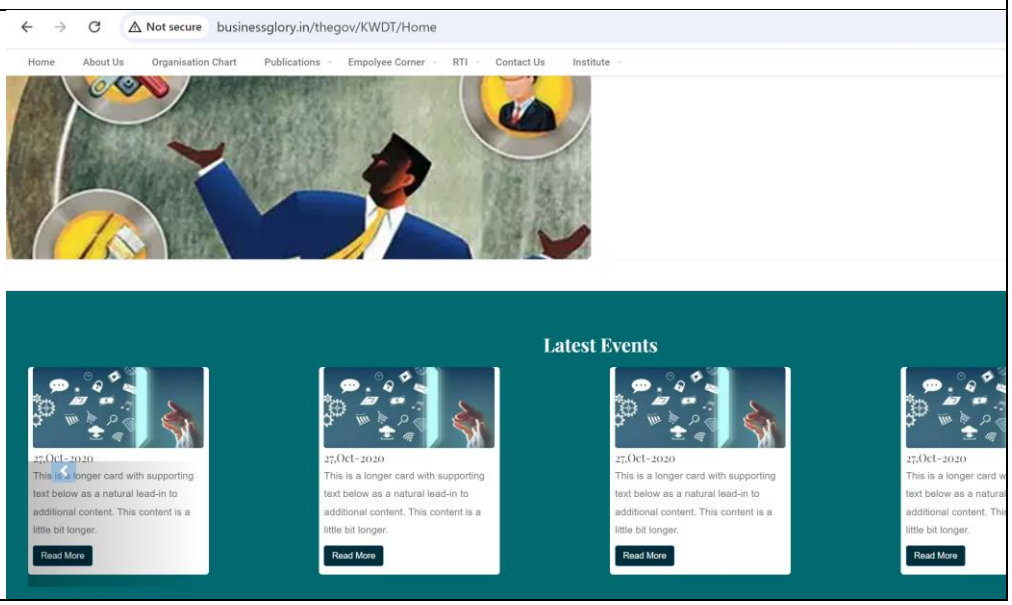
• **Requirement Description:** Latest News Information will be provided on the home page of the KWDT. The respective module will show the data related to the Latest News.

o Will allow Administrator to Publish Latest News & Announcements on the website.

o Administrator will be able to View/Add/Edit/Delete News by adding News Titles and Details through WYSIWYG editor.

o News added here will need to be reviewed and approved before getting published on the website

Requirement Name:	Latest News
Requirement Description:	Latest News Information will be provided on the home page of the KWDT website
Primary Actor:	Administrative
Main Success Scenario:	
Trigger	When an administrator submits news for review, which is then approved and published on the KWDT home page
Business Context:	The Latest News module will be featured on the KWDT home page, providing essential updates and announcements to users. • **Content Management**:

	○ **Administrator Functions**: Admins can publish news and announcements. ○ **WYSIWYG Editor**: Admins can view, add, edit, and delete news using a user-friendly editor. ○ **Review Process**: News items require approval before publication to ensure accuracy.
User Screen	

7.28.11 Requirement ID: (KWDT)FR-13

Requirement Name: Events

• **Requirement Description:** Events Information will be provided on the home page of the KWDT website. The respective module will show the data related to the Events. This module will help department in managing details of their upcoming Events, past events, events catalogue. We will develop this module with the following features:

o Add / Edit / Deactivate Events through secure online control panel.

Manage Events Details including the following:

Events General Information.

Schedule.

Registration information.

Download documents.

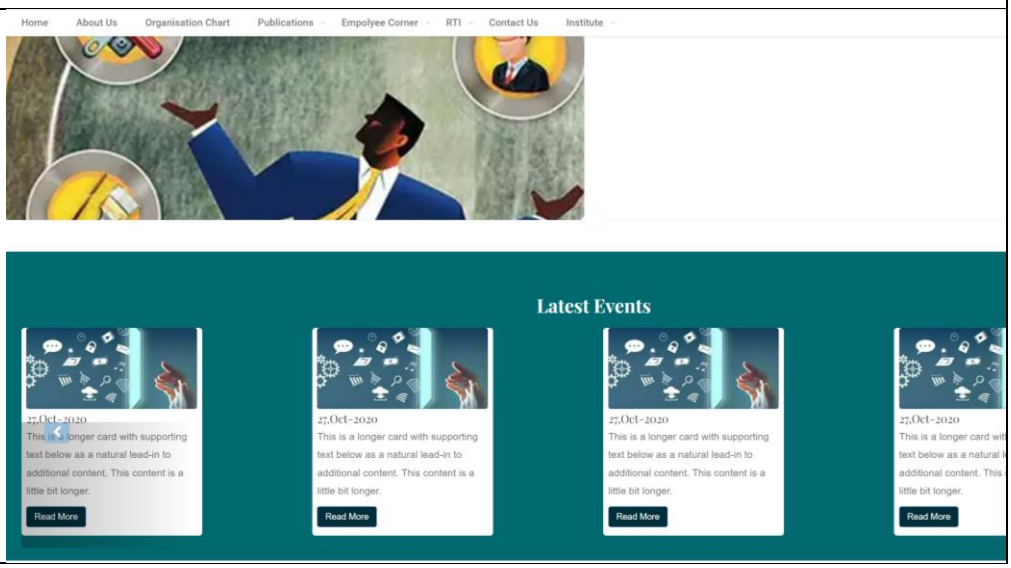
Manage Events details including the following:

- Upload Events Photos.
- Upload Post Events documents.
- Upload Events details.

Requirement Name:	Events
Requirement Description:	The respective module will show the data related to the Events. This module will help department in managing details of their upcoming Events, past events, events catalogue

Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality
Trigger	When an administrator adds, edits, or deactivates events through the secure online control panel, updating the displayed information on the KWDT home page.

Business Context:	The Events module will be featured on the KWDT home page to manage and display information about upcoming and past events.
	• **Visibility**: Prominently displays event information.
	• **Event Management**:
	  ○ **Add/Edit/Deactivate Events** via a secure control panel.
	  ○ Manage details including schedule, registration info, and downloadable documents.
	  ○ Upload event photos and post-event documents.

User Screen	

8 State Level Technical Advisory Committee (SLTAC):

8.1 Introduction

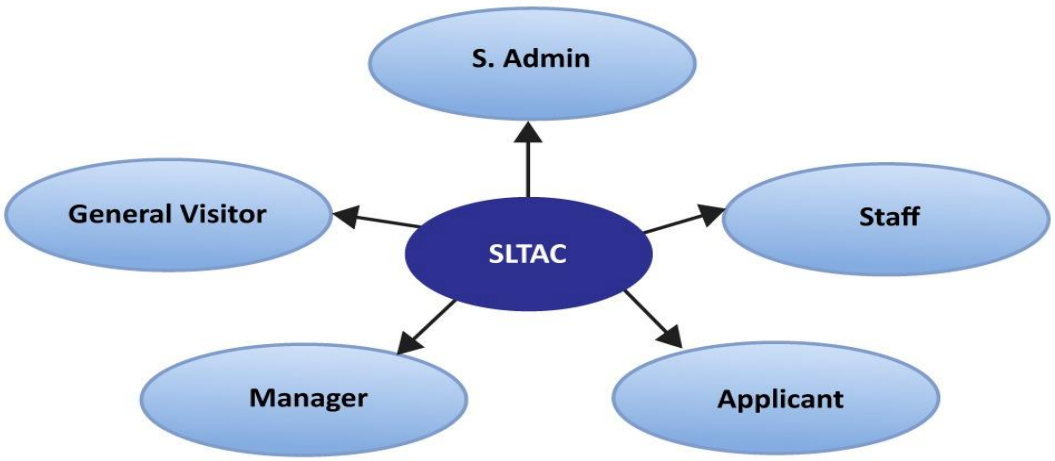
The **State Level Technical Advisory Committee (SLTAC)** is proposed to enhance technical guidance and decision-making for engineering projects in Maharashtra. Leveraging the expertise of the Maharashtra Engineering Training Academy (META) and the Maharashtra Engineering Research Institute (MERI), SLTAC will provide strategic recommendations for infrastructure development and management. It will focus on key areas such as water resource management, sustainable construction practices, and innovative engineering technologies. By fostering collaboration among various departments

8.2 Business Context:

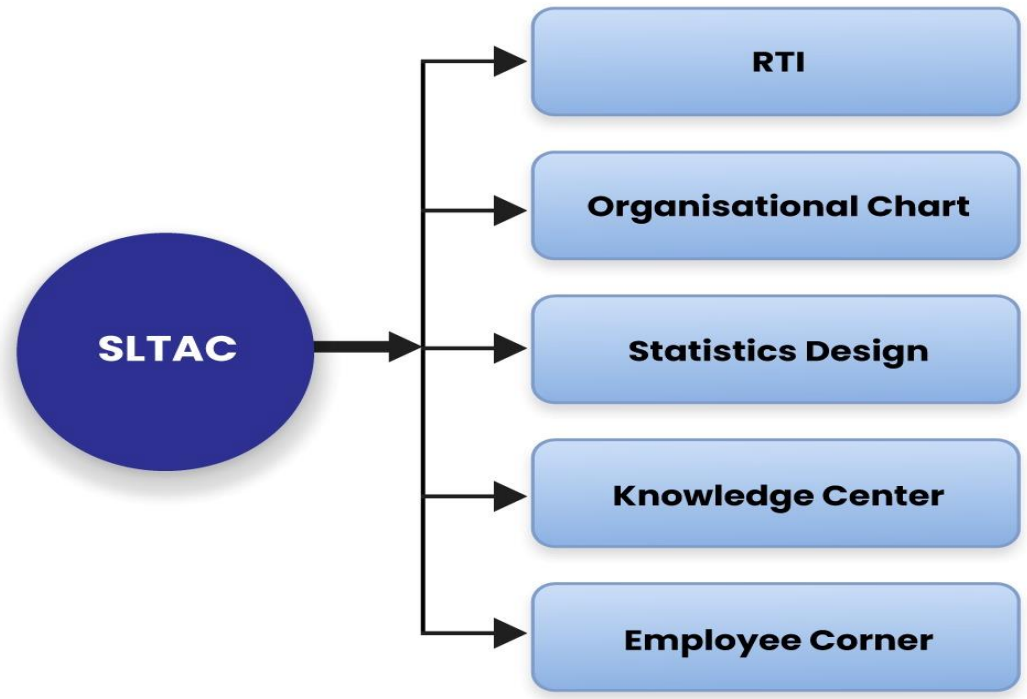
The State Level Technical Advisory Committee (SLTAC) plays a crucial role in providing technical advice, recommendations, and approvals for various water resource projects within Maharashtra. SLTAC's primary objective is to ensure that all projects are aligned with the state's water resource management goals, emphasizing sustainability, efficiency, and environmental conservation. The committee acts as a regulatory and advisory body to maintain high standards of design, implementation, and management across all water-related initiatives.

With the growing complexity of water resource challenges and the increasing demand for more effective infrastructure, the SLTAC has recognized the need to streamline its processes. The introduction of the SLTAC Website is aimed at automating the existing manual operations, thereby improving the committee's decision-making efficiency, reducing approval times, and ensuring better communication between various stakeholders involved in the projects.

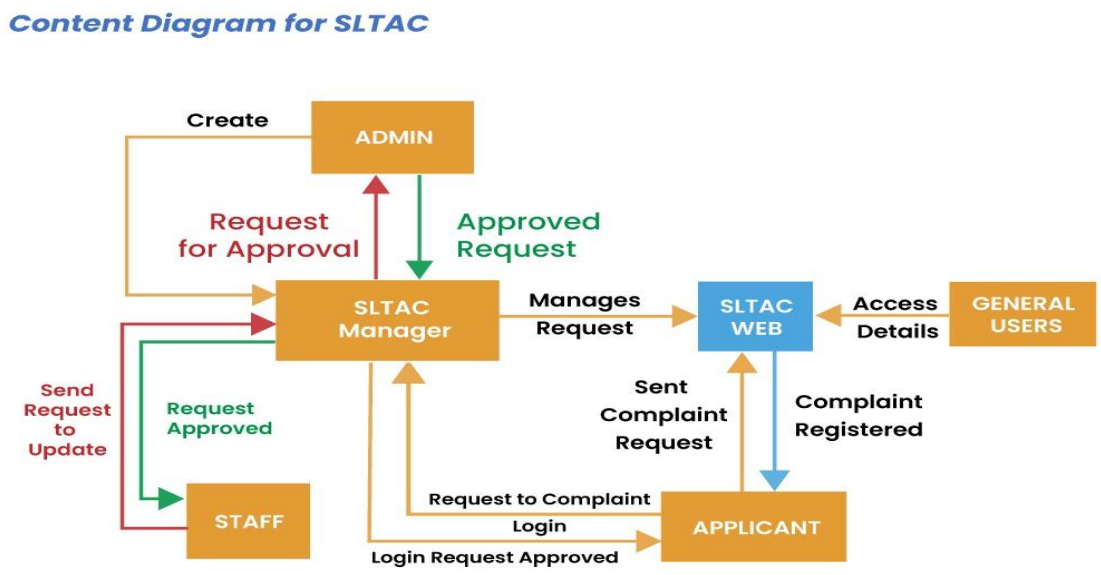
8.3 Application Architecture



8.4 System Architecture:

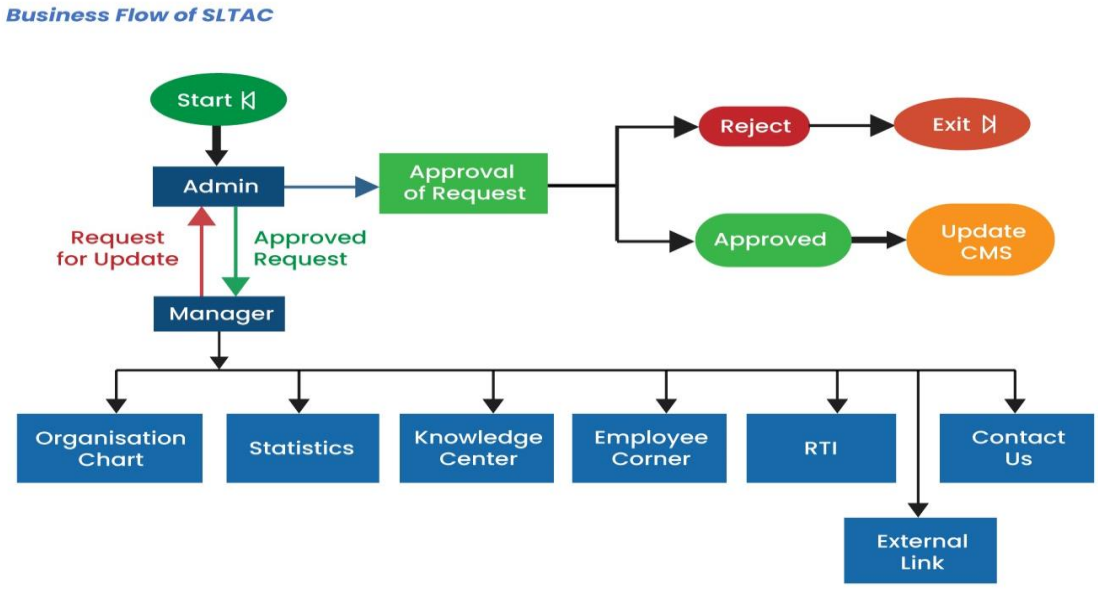


8.5 Solution Diagram:



8.6 Business Process Flow

This high-level explanation provides clarity on the roles, data flow, and processes involved in the system, which can then be broken down further into more detailed diagrams or business processes based on your software requirements.



8.7 System Architecture

8.8 A. Hierarchical Model Structure:

The hierarchical model can be split into **three main layers**:

- **Application Logic Layer**
- **User Interface Layer**
- **Server/ cloud API Layer.**
- **Data Storage Layer**

Each layer will have specific responsibilities and roles, as described below.

B. User Interface Layer (Presentation Layer)

This layer handles **user interactions**. It includes various user roles that interact with the system based on the permissions assigned to them.

Users:

5. **Application Layer**:

- Highest level of access and all content of web of META which Leads by content- Managers

6. **Admin**
    - Handles tasks like managing data, assign the role of manger for each content within the boundaries set by the Admin.
7. **Staff**
    - Focuses on validating, checking, and updating data for internal use.
8. **General Users**
    - Public-facing role, primarily to search and retrieve data from the system.

C. **Cloud Server (API) Layer**

- **API Gateway**:
    - Acts as a bridge between the web application and the data storage.
    - Manages requests and responses between the application and the database.
    - Ensures security, scalability, and performance optimization.
- **Functions**:
    - Request Validation
    - Data Security and Encryption
    - Load Balancing for high availability
    - Handling external data sources (if integrated with external services)

D. Data Storage Layer (Database Layer)

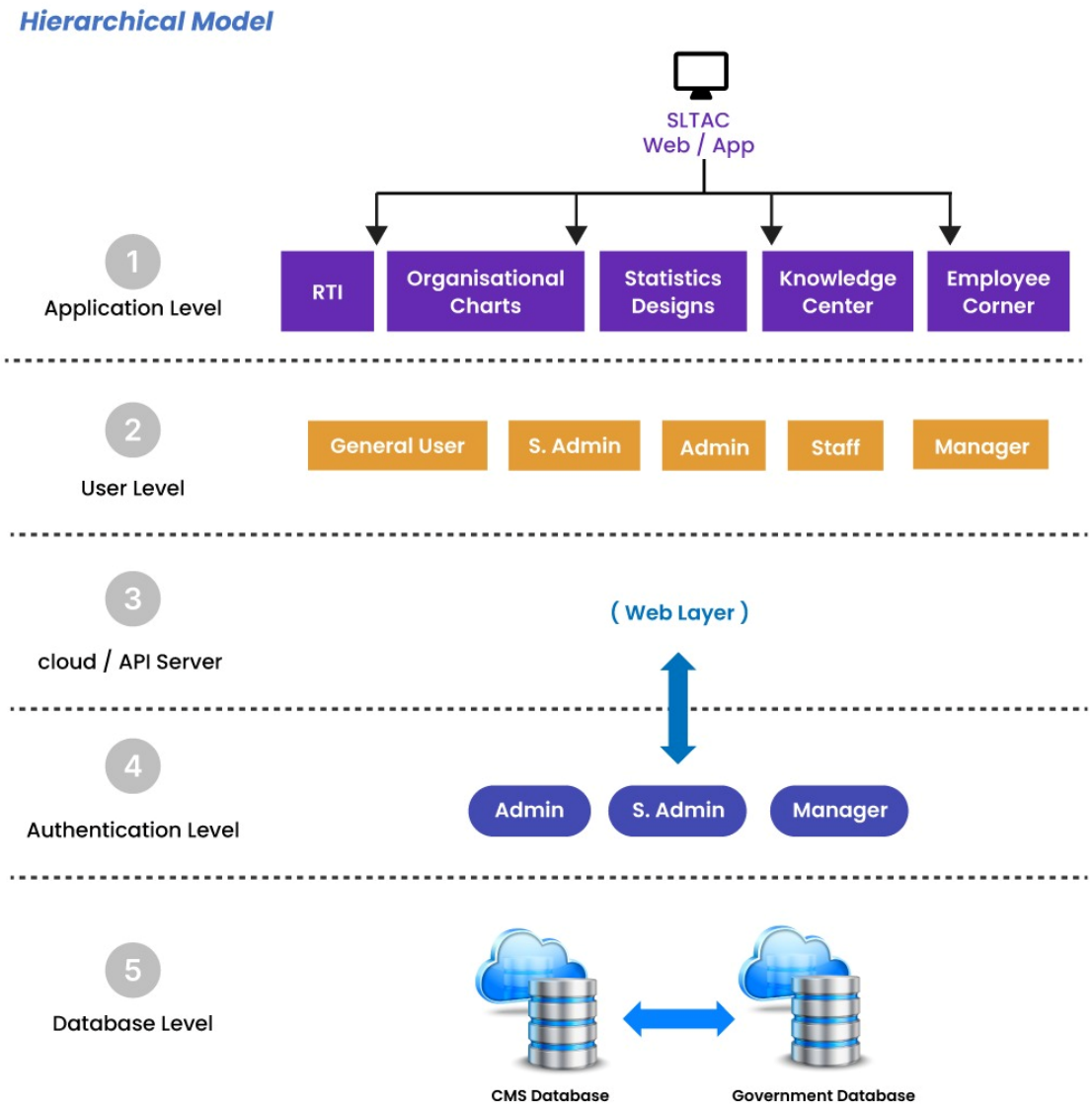
This layer is responsible for **data storage** and managing the interaction between the application and the stored data.

Data Storage Components:

3. **Database (Central Data Repository)**
    - Stores all data, including:
        - User information and permissions
        - Records for reporting, updates, and data checks
        - Data accessed by General Users
    - Provides the necessary data based on requests from the web application.

4. **Data Access and Management**
    - Controlled by the web application.
    - Only specific roles (Super Admins, Admins, Staff) can add, modify, or delete data.
    - General Users can search and view data, but cannot modify it.

8.9 Hierarchical Model



8.10 User Class and Characteristics

a)**Admin User:** The Admin User role is assigned by the Super Admin. This user has control over specific modules based on permissions set by the Super Admin. Admins can manage, update, and control designated areas of the website according to their access rights.

b) **Staff Members:** Staff members are responsible for reviewing, verifying, and updating content within their assigned areas. They assist in ensuring that the website's information is accurate and up-to-date. Staff can have varied levels of access depending on their roles and the tasks they are responsible for, such as data verification, content modification, or content approval.

c)**General Visitors:** General Visitors are the public users who visit the website to seek information made available by SLTAC These users primarily consume the content on the website without any administrative control but can interact with the information shared in the public interest.

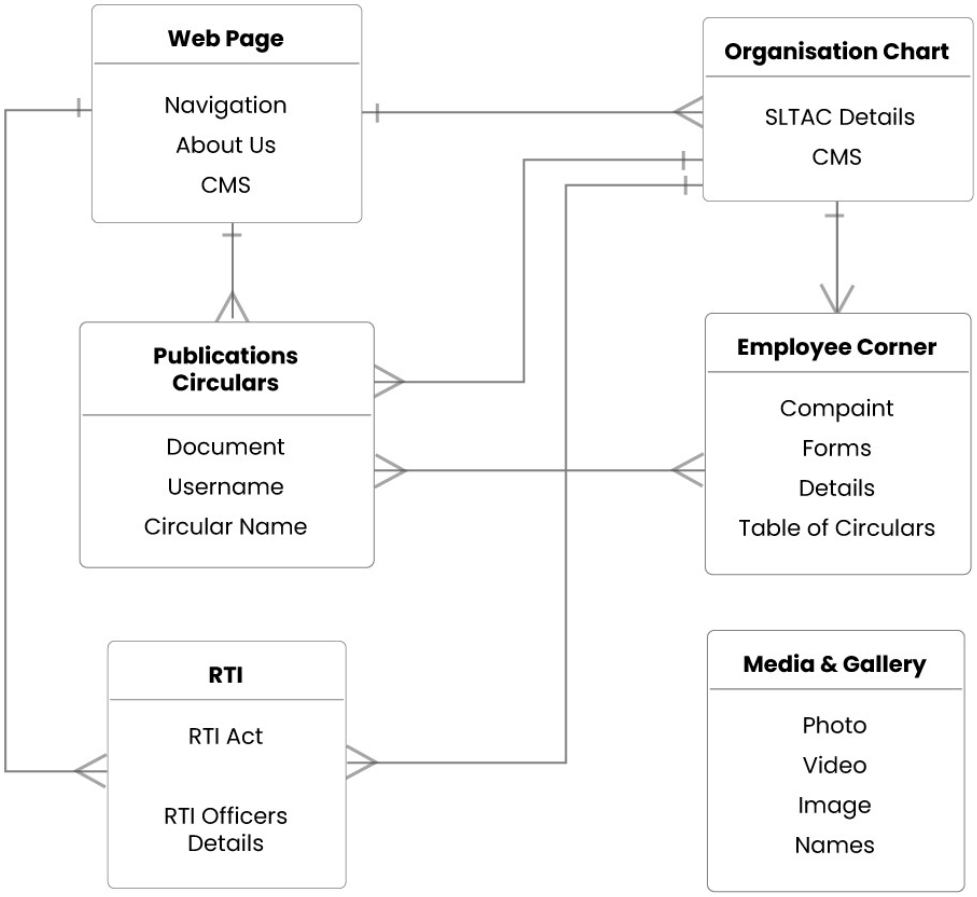
d**). Manager**: managers are eligible to edit/update the Data of contents in Meta web, for which they are assigned to do.

8.11 Navigation Structure

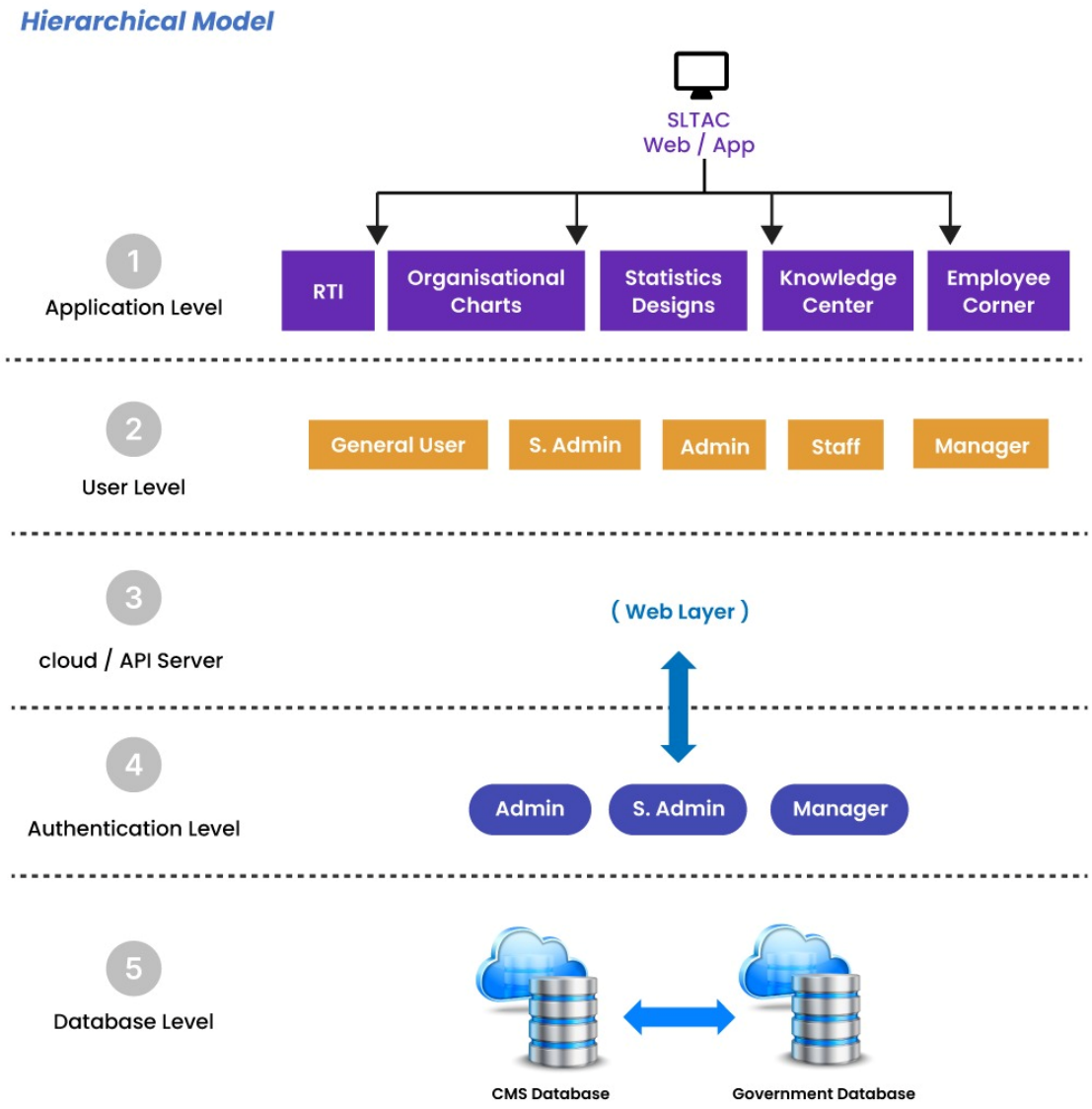
S. No.	Tabs/Links	Module	Menu Location
1.	Common Features • Skip to Main Content • Skip to Navigation • Screen Reader Access [CMS Page] • Accessibility options [Dynamic Page] o Font +/- [Functionality] o Color option [Functionality] Print [Functionality] • Todays Visit Count, Total visit Count, Date of last reviewed [Dynamic Page] • Search within site [Search Website With Google Customized Search] • Site Map • Marathi/English Version of each webpage	Dynamic + CMS	Common Features
2.	Home	Dynamic	Main Menu
3.	About Us •overall information about SLTAC	Content (CMS)	Main Menu
4.	Statistics : • List of completed AA/RAA	Content (CMS)	Main Menu
5.	Employee Corner • WRD MAHARASHTRA • Women sexual harassment complaint box	Content (CMS)	Main Menu

6.	RTI • RTI ACT • RTI officers details	Content (CMS)	Main Menu
7.	Contact Us: • Details Of Contacts	Content (CMS)	Main Menu
8.	Header Menu • Screen reader access • Accessibility option • Font+/- • Google custom search • Marathi/ English • Site map • Social media icon • Login.	Content (CMS)	Main menu
9.	Footer menu • Today's visit count • Total visit count • Date of last Reviewed • Link to different policy pages • Relevant logos too • Certificate- compliance of the latest-WCAG, W3C, GIGW		

8.12 Entity Relationship Diagram



8.13 Hierarchical Architecture

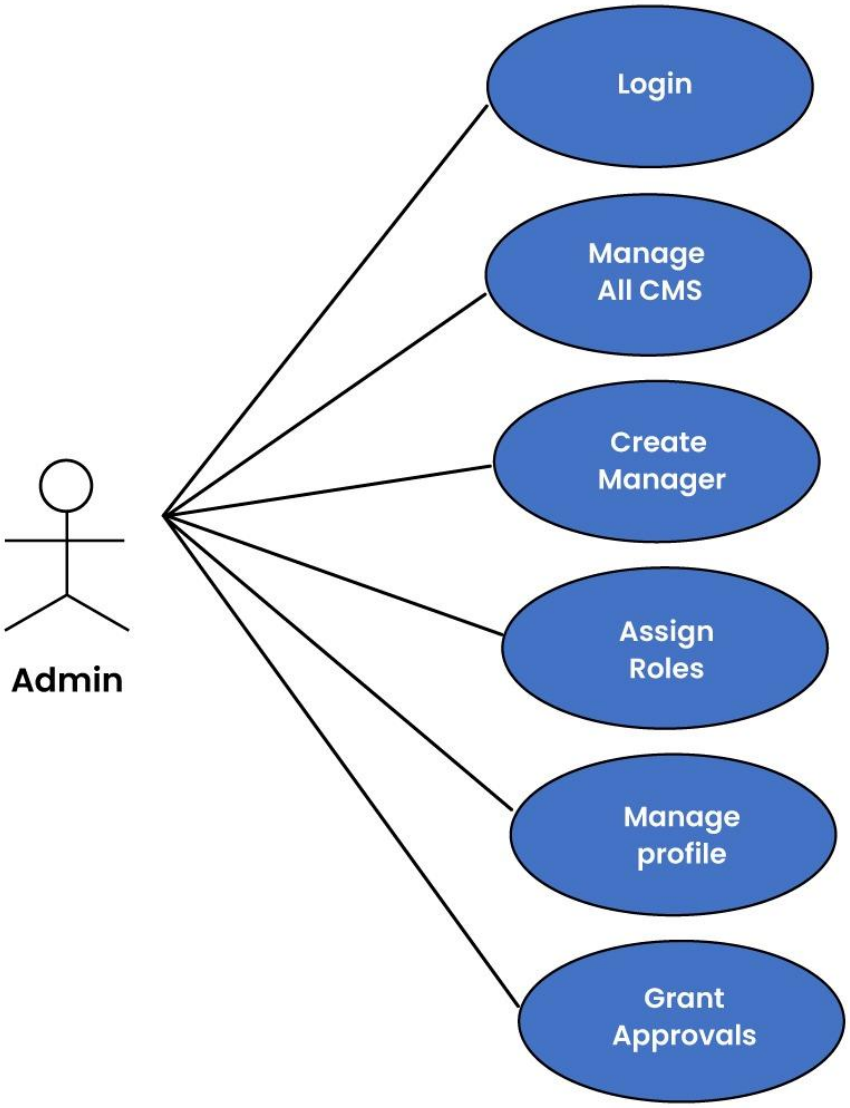


8.14 Use Cases

The proposed flow has been given for general public for visiting the website for viewing general information present on the website and the Administration part for maintaining the website.

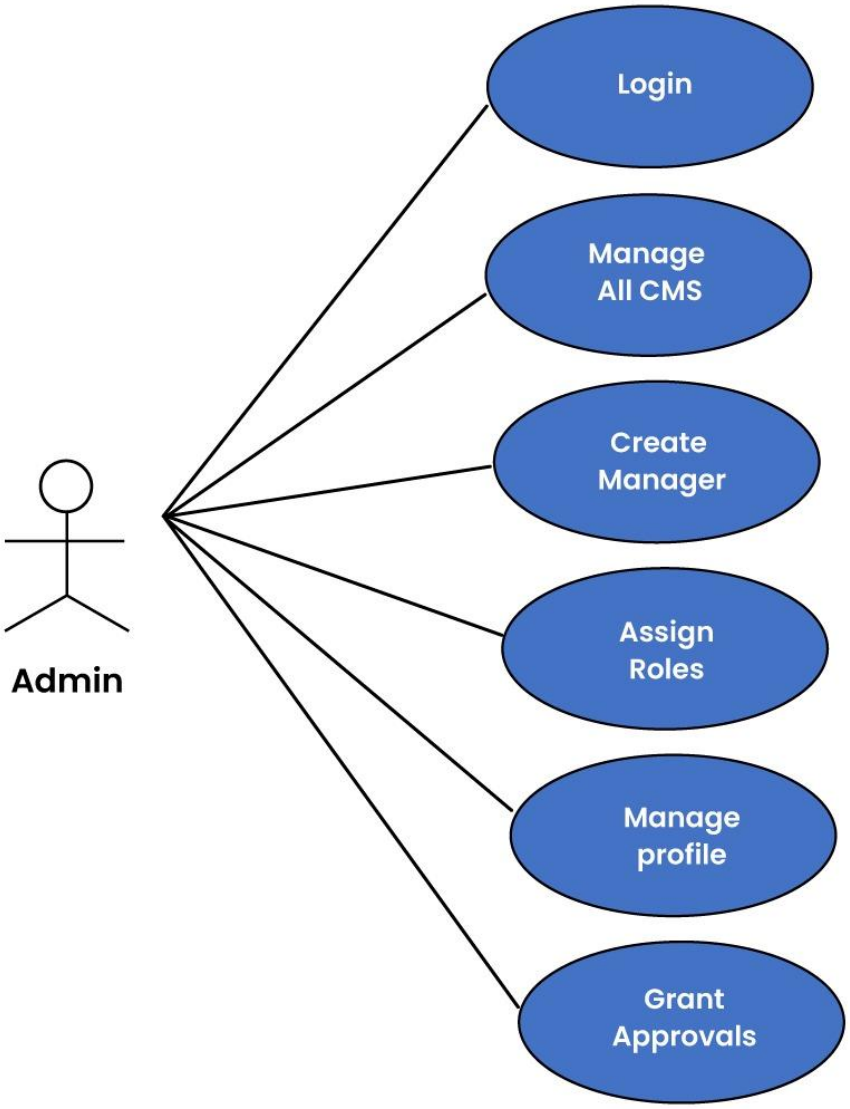
Use case for Admin:

The Proposed Flow has been given for Admin for handling website ‘s contents and administrative part for maintaining the website’s content of relevant departments.



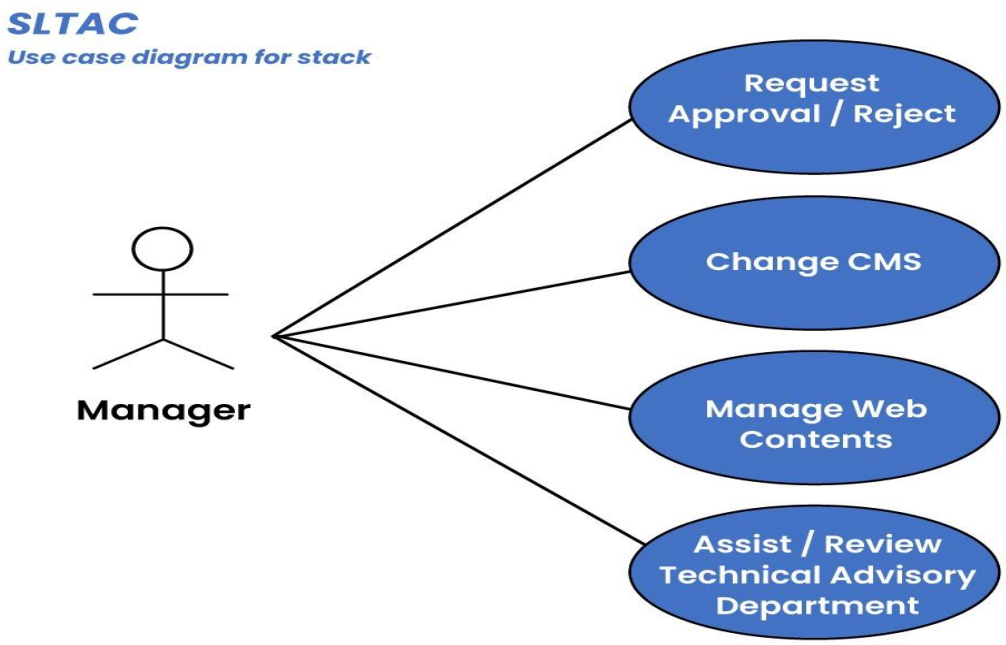
Use case for super Admin:

The Proposed Flow has been given for super -Admin for handling website ‘s contents and administrative part for maintaining the website’s content.

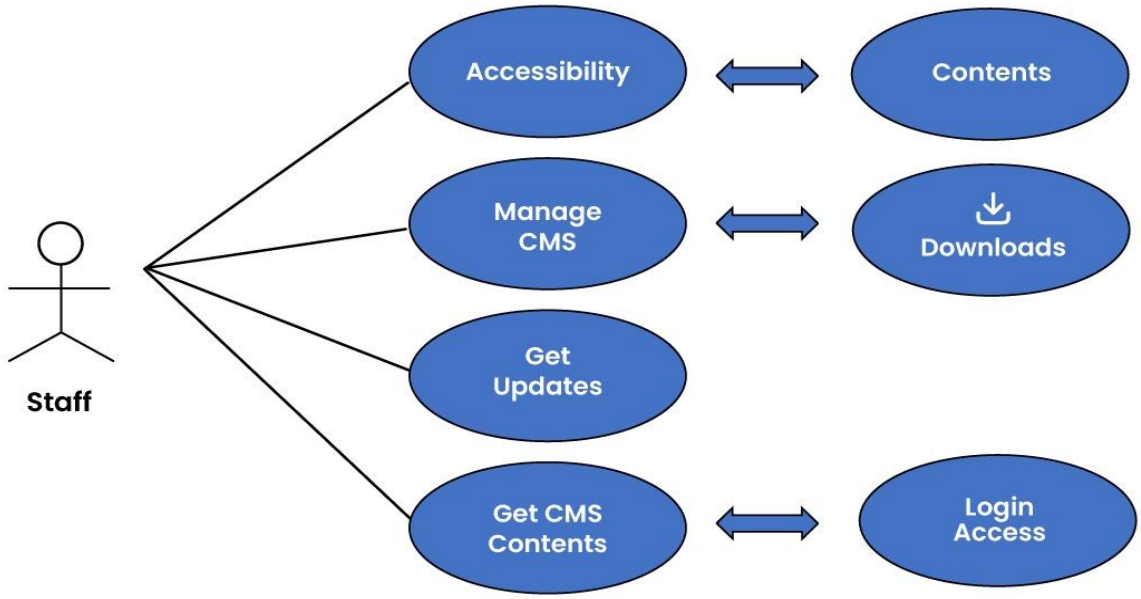


Use case for managers :

The Proposed Flow has been given for Manager who will able to see the web contents and access the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.

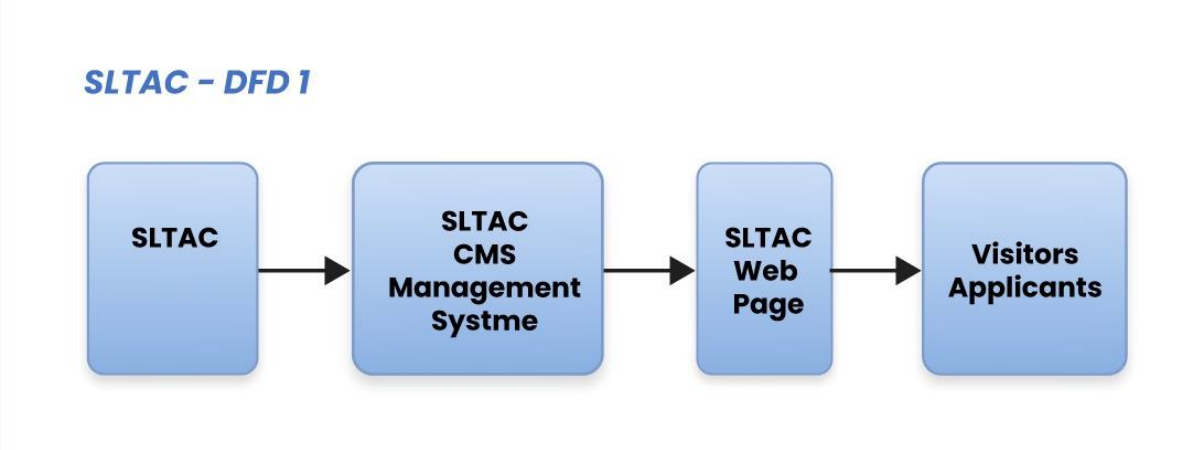


Use case for Staff : The Proposed Flow has been given for staff who will able to see the web contents and access, update/edit the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.

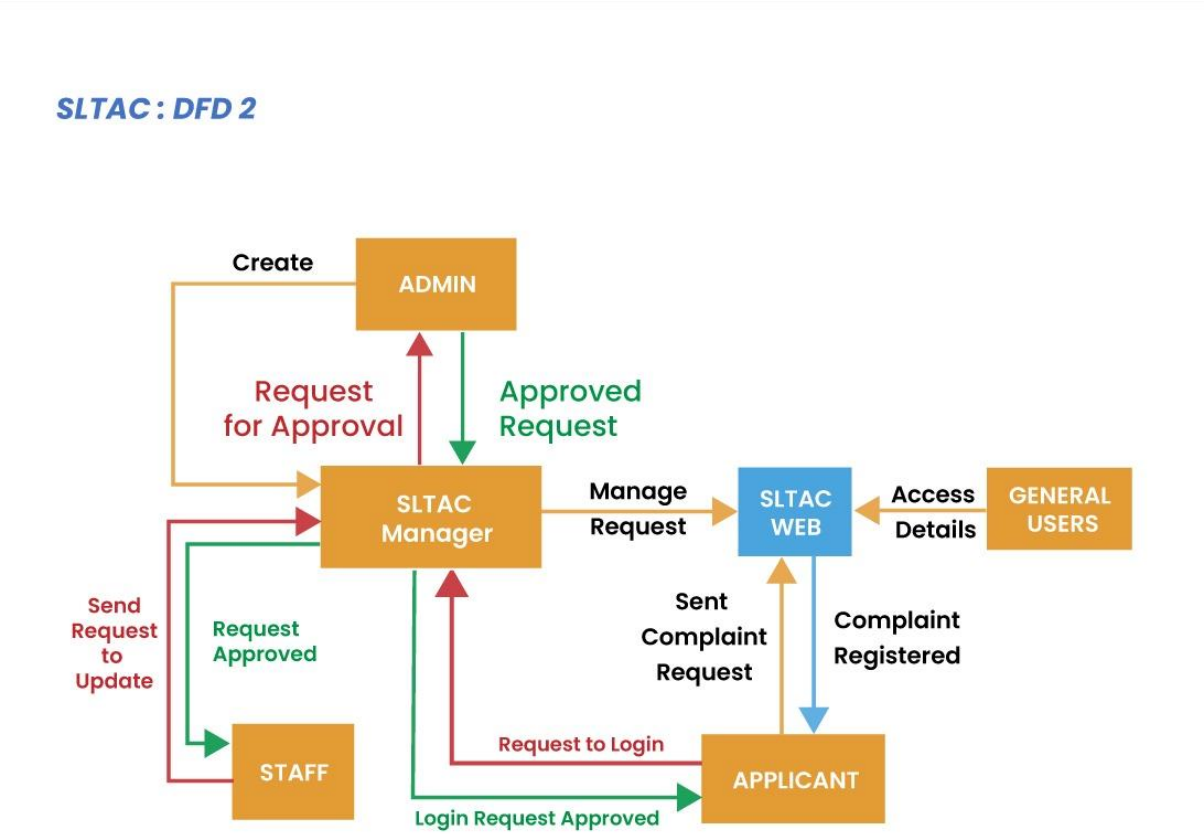


Data Flow Diagrams

DFD – Level 1



DFD – Level 2



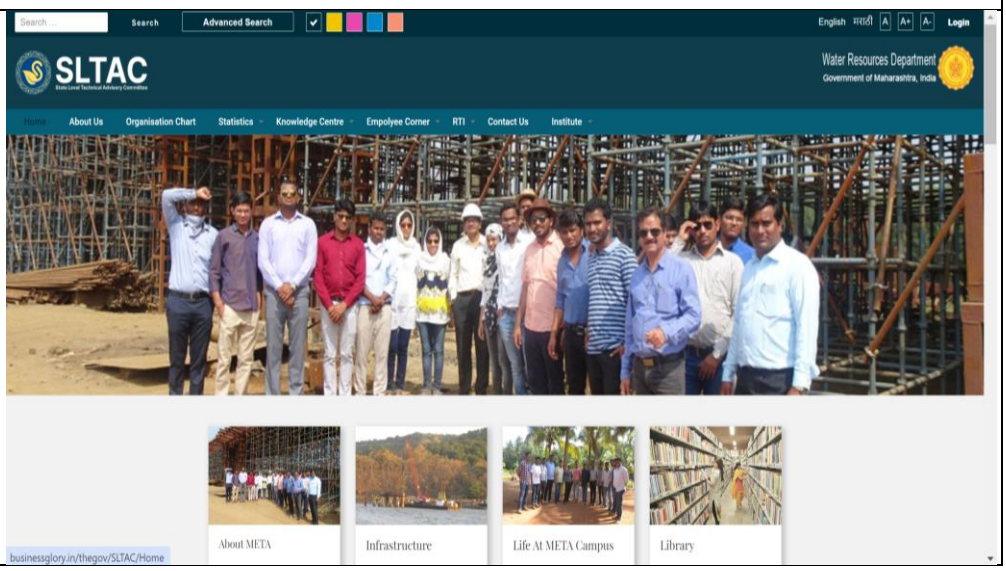
8.14.1 Requirement ID: (SLTAC)FR-1

Requirement Name: Home (Menu Navigation)

• **Requirement Description:** This would be provided under the Menu Bar of the Home Page. The Mouse hover effect is given to its CSS Style.

Stimulus/ Response Sequences: The user will direct to the main page of the website, on once clicking on the menu.

Data Fields/Elements: Not Required

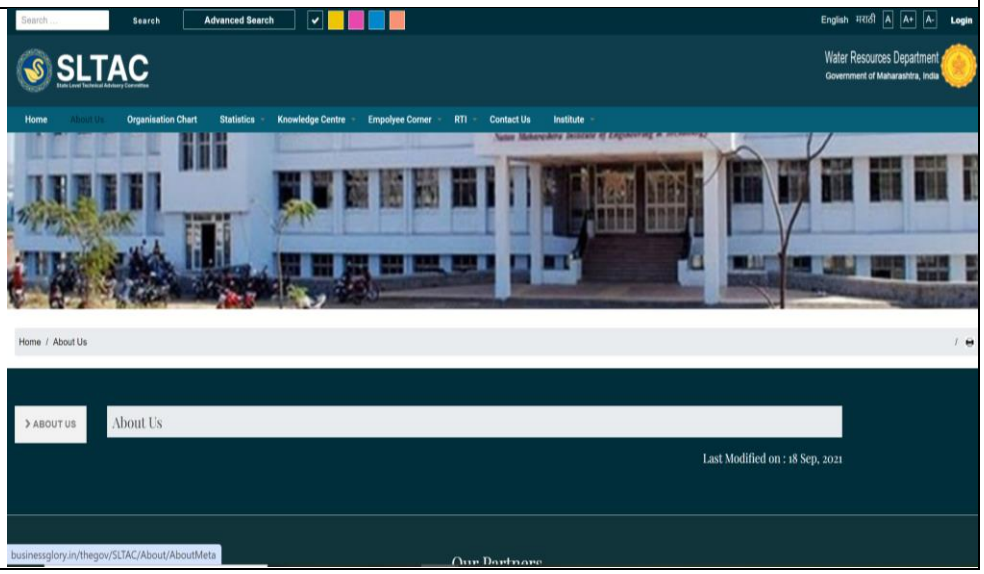
Requirement Name:	Home (Menu Navigation)
Requirement Description:	The user will direct to the main page of the website, on once clicking on the menu
Primary Actor:	User, Administrative
Main Success Scenario:	Screen Containing following Functionality • Menu
Trigger	when the user interacts with the Home menu item by hovering over it, followed by a click action to access the main page of the website.
Business Context:	Home page will display the information of the SLTAC
User Screen	

8.14.2 Requirement ID: (SLTAC)FR-2

Requirement Name: About Us

• **Requirement Description:** The menu for About Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the brief introduction about The State Level Technical Advisory Committee (SLTAC). This will be a content-based CMS page managed by the Site Administrator.

Stimulus/ Response Sequences: On moving the cursor over the About Us tab, the following sub-menus will appear on the drop down.
Data Fields/ Elements:
About Us

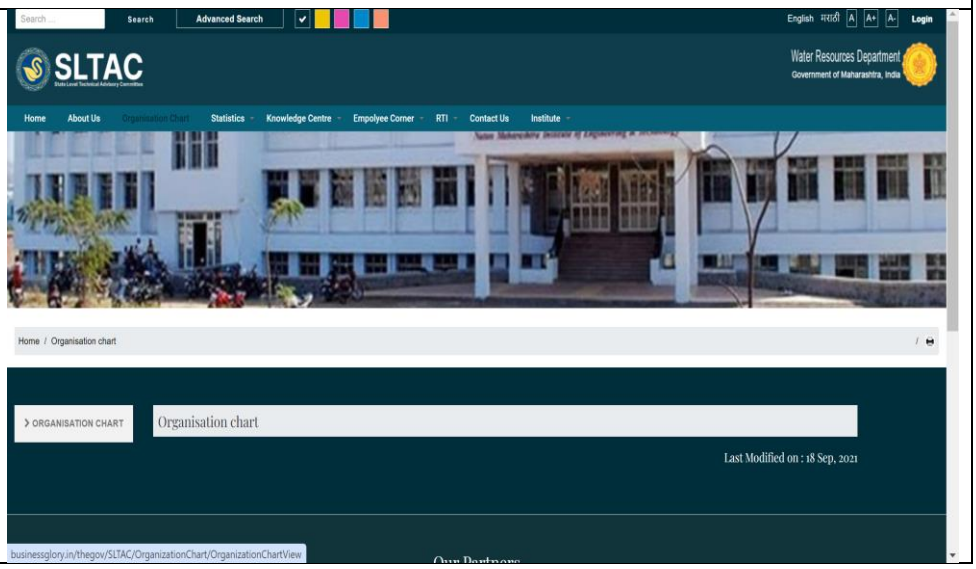
Requirement Name:	About Us
Requirement Description:	This will help the department to give the brief introduction about SLTAC
Primary Actor:	User, administrative
Main Success Scenario:	Screen Containing following Functionality • General Information • Work Profile
Trigger	when a user moves their cursor over the About Us menu item on the Home Page, prompting the dropdown menu to display the sub-menu options
Business Context:	The goal of improving user experience and accessibility of information regarding The SLTAC By offering a well-structured and informative About Us section, the department can effectively communicate its mission and functions to stakeholders and the public about us page will be edited, updated, deleted by the site administrative.
User Screen	

8.14.3 Requirement ID: (SLTAC)FR-3

Requirement Name: Organisation Chart

• **Requirement Description:** The menu for Organization Chart would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the Organization Chart in SLTAC. This will be a content-based CMS page managed by the Site Administrator.

Data Fields/ Elements: The categories under Organisation Chart will be managed through CMS i.e. Content Management System

Requirement Name:	Organisation Chart
Requirement Description:	This will help the department to give the Organization Chart in SLTAC
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality • Organisation Chart
Trigger	When a user hovers over the Organisation Chart menu item in the main Menu Bar, prompting the display of the Organisation Chart content
Business Module:	The Organisation Chart module provides a clear visual representation of the SLTAC's structure, facilitating transparency and communication. Managed via a CMS, it allows for easy updates, ensuring stakeholders have access to current organizational information.
User Screen	

8.14.4 Requirement ID: (SLTAC)FR-4

Requirement Name: Statistics

Requirement Description: The system should display a static webpage with a table that lists all **ongoing AA/RAA** tasks currently under scrutiny. The table should include data such as task names, expected completion dates, status, remarks, and assigned personnel. Like the completed tasks, this table should also allow users to download

the data in **Word** and **Excel** formats. This section will be updated manually as the status of the tasks progresses.

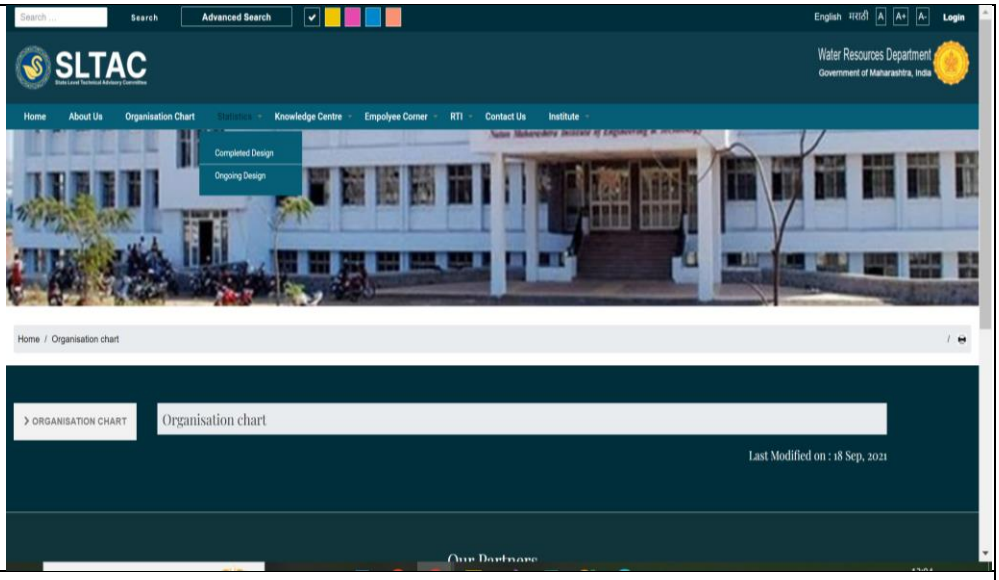
Stimulus/Response Sequences:

- **Stimulus**: The user accesses the "Scrutiny Ongoing AA/RAA" page on the website.
- **Response**: The system retrieves and displays a table with ongoing AA/RAA data, showing task names, expected completion dates, statuses, and remarks.
- **Stimulus**: The user clicks on the **Download Word** or **Download Excel** button.
- **Response**: The system generates a Word or Excel document and prompts the user to download it.

Data Fields/Elements:

- **Task Name** (Text Field)
- **Start Date** (Date Field)
- **Expected Completion Date** (Date Field)
- **Status** (Dropdown: "Ongoing", "On Track", "Delayed")
- **Remarks** (Text Area: Optional notes on progress or issues)
- **Assigned Personnel** (Text Field)
- **Download Options**:
  - **Word Document** (Button)
  - **Excel File** (Button)

Requirement Name:	Statistics
Requirement Description:	system will display a static webpage with a table that lists all **ongoing AA/RAA** tasks currently under scrutiny. The table will include data such as task names, expected completion dates, status, remarks, and assigned personnel
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality • Completed Project • Ongoing Project
Trigger	when users access the "Scrutiny Ongoing AA/RAA" page.
Business Module:	provides a transparent overview of ongoing AA/RAA tasks, allowing users to track status, view details, and download reports in Word or Excel formats. Regular manual updates ensure accurate information, enhancing project management and accountability. Site administrative will Edit, update, delete right's to keep the page updated.

User Screen	

8.14.5 Requirement ID: (SLTAC)FR-5

Requirement Name: Knowledge Centre

• **Requirement Description:** Knowledge Centre menu would be provided under the main Menu Bar of the Home Page. The respective tab will show the information of Awards/Notable works/ Paper published by WRD Officers, rate list, WRD handbooks. Knowledge Centre is sub divided into the sub menus. From those some of the sub menus were handled through CMS & some of the modules will work dynamically.

o Awards/Notable works/ Paper published by WRD Officers: This module will help Department in publishing its Awards/Notable works/ Paper published by WRD Officers on the website. This module will have following features:

Manage Awards/Notable works/ Paper published by WRD Officers through secure online control panel.

Add/Edit/Delete Awards/Notable works/ Paper published by WRD Officers on the website.

Define appropriate Meta tags for each Awards/Notable works/ Paper published by WRD Officers.

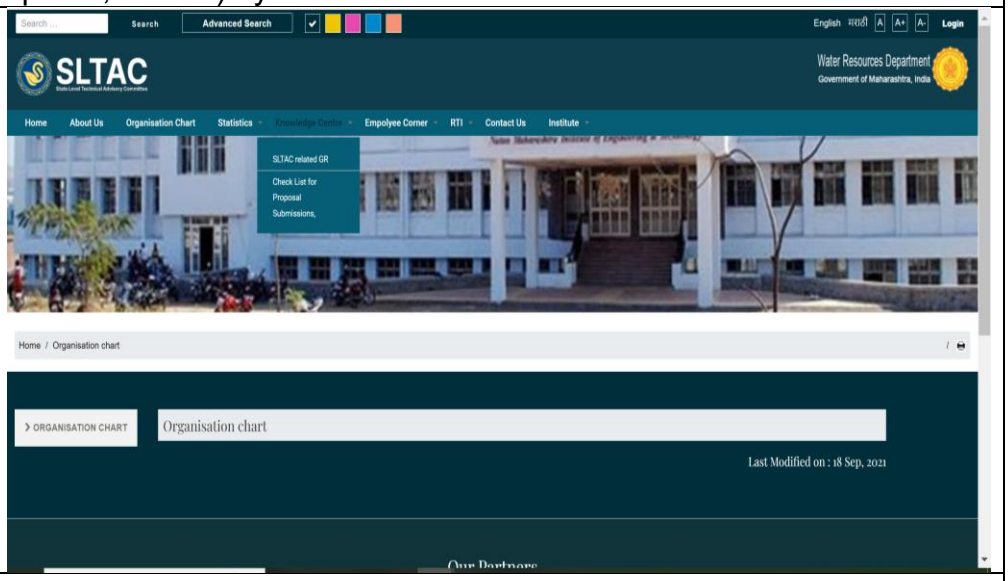
Preview and Publish Awards/Notable works/ Paper published by WRD Officers on the website.

o Rate list: Rate List menu will be a content, Page. The SLTAC Administrator will manage Rate List Content.

o WRD handbook: WRD handbook menu will be a content, Page. The CDO Administrator will manage WRD handbook Content.

Data Fields/ Elements: The categories under Knowledge Centre will be managed through Knowledge Centre Module

Requirement Name:	Knowledge Centre
Requirement	The respective tab will show the information of Awards/Notable works/ Paper published by WRD Officers, rate list, WRD handbooks.

Description:	
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality • AA/RAA related GR • Handbook • Letter box • Form Important for AA
Trigger	user clicks on the Knowledge Centre menu in the main navigation bar, leading to the display of submenus for easy access to specific categories.
Business Module:	**Knowledge Centre** centralizes information for the SLTAC and the Water Resources Department (WRD), showcasing awards, notable works, published papers, rate lists, and handbooks. Maintained (add, update, delete) by the site administrative
User Screen	

8.14.6 Requirement ID: (SLTAC)FR-6

Requirement Name: Employee Corner Module

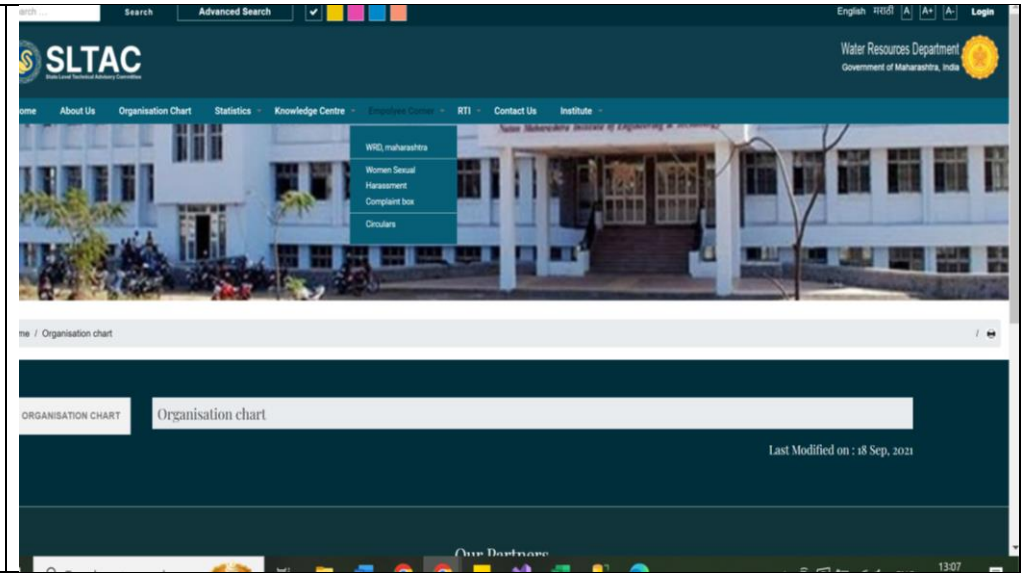
• **Requirement Description:** The Employee Corner Module will serve as a static page that provides essential resources for employees of the Water Resources Department (WRD) in Maharashtra. It will include hyperlinked sections to the PORTAL Employee Corner, a Women Sexual Harassment Complaint Box linked to the Shebox site, and a table of circulars with relevant details that can be downloaded in Excel format.

Stimulus/Response sequences: When a user accesses the Employee Corner, they will see a hyperlinked menu directing them to the PORTAL Employee Corner. Clicking on the Women Sexual Harassment Complaint Box will redirect them to the Shebox site. Additionally, selecting the Circulars section will display a table of relevant details, with an option to download the data in Excel format.

Data Fields/Elements:

1. Hyperlinked Menu to PORTAL Employee Corner (Link)
2. Women Sexual Harassment Complaint Box (Link)
3. Circulars Table (Static Page)
    - Circular Title
    - Date Issued
    - Reference Number
    - Description
    - Download Table (Excel)

Requirement Name	Employee Corner Module
Requirement Description:	It will include hyperlinked sections to the PORTAL Employee Corner, a Women Sexual Harassment Complaint Box linked to the Shebox site, and a table of circulars with relevant details that can be downloaded in Excel format
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality o Hyperlinked Menu to PORTAL Employee Corner (Link) o Women Sexual Harassment Complaint Box (Link) o Circulars Table (Static Page) • Circular Title • Date Issued • Reference Number • Description • Download Table (Excel)
Trigger	Employee Corner Module is activated when a user clicks on the "Employee Corner" menu option on the home page, leading them to the module's dedicated page
Business Module:	This module is designed to provide vital resources and information for employees of the Water Resources Department (WRD) in Maharashtra. By facilitating easy access to the PORTAL Employee Corner, a dedicated complaint mechanism for harassment, and a downloadable circulars table, it aims to promote employee welfare, enhance communication, and ensure transparency within the department. This centralized resource hub empowers employees with the necessary tools and information to perform their roles effectively and safely. Administrative will able to access it.

User Screen	

8.14.7 Requirement ID: (SLTAC)FR-7

Requirement Name: RTI Content.

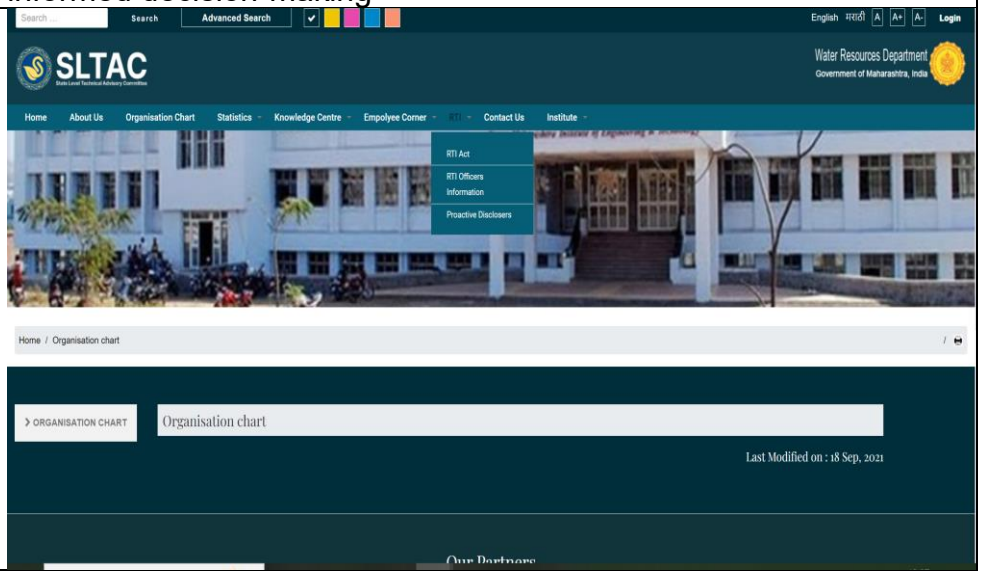
• **Requirement Description:** RTI menu will be a content, Page. The SLTAC Administrator will manage RTI Content.

Stimulus/ Response Sequences: On a click of RTI, user will view the RTI Details.

Data Fields/ Elements:

1. RTI
   i. RTI ACT
   ii. RTI Officer Info.
   iii. Proactive Discloser.
2. Citizen Charter

Requirement Name	RTI Content.
Requirement Description:	RTI menu will be a content, Page
Primary Actor:	The SLTAC Administrator will manage RTI Content
Main Success Scenario:	Screen Containing following Functionality ○ RTI 1) RTI ACT 2) RTI Officer Info. 3) Proactive Discloser. ○ Citizen Charter
Trigger	activated when a user clicks on the "RTI" menu option on the home page, directing them to the RTI details page.

Business Context:	The RTI Content Module provides essential information about the Right to Information Act, RTI officer details, and proactive disclosures, enhancing transparency and accountability within the SLTAC. Managed by the SLTAC Administrator, it empowers citizens to access vital information, supporting civic engagement and informed decision-making
User Screen	

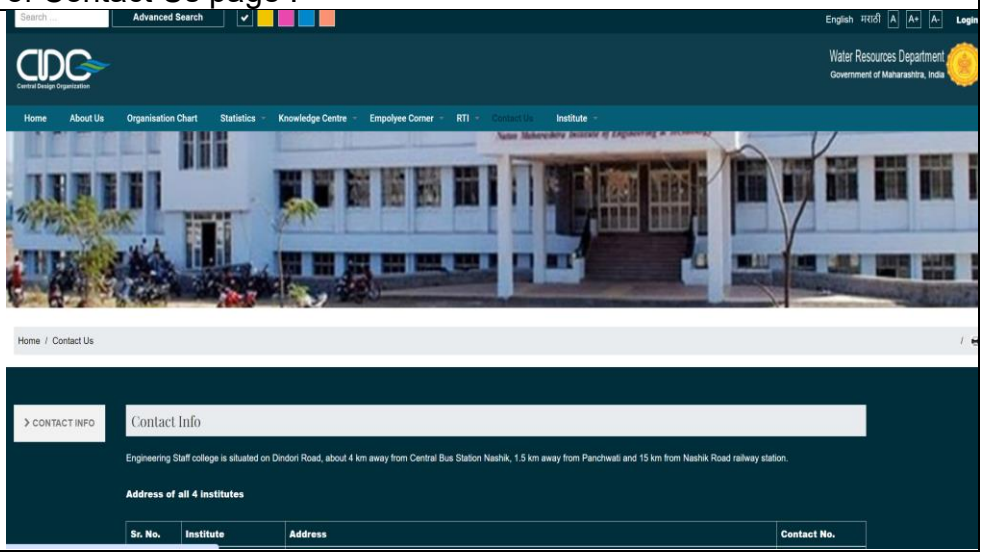
8.14.8 Requirement ID: (SLTAC)FR-8

Requirement Name: Contact Us

• **Requirement Description:** The menu for Contact Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the detail about contact details of SLTAC. This will be a content-based CMS page managed by the Site Administrator.

Data Fields/ Elements: The categories under Contact Us will be managed through CMS i.e. Content Management System.

Requirement Name	Contact Us
Requirement Description:	This will help the department to give the detail about contact details of SLTAC
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality • Contact us
Trigger	the "Contact Us" menu item in the main navigation bar, the page displaying contact information for SLTAC is accessed.
Business Context:	The Contact Us module facilitates communication between SLATC and its stakeholders by providing essential contact details. This content-managed section ensures users can easily find and reach out for inquiries or support, promoting transparency and

	responsiveness. Have right to administrative to update , edit details of Contact Us page .
User Screen	

8.14.9 Requirement ID: (SLTAC)FR-9

Requirement Name: External Links

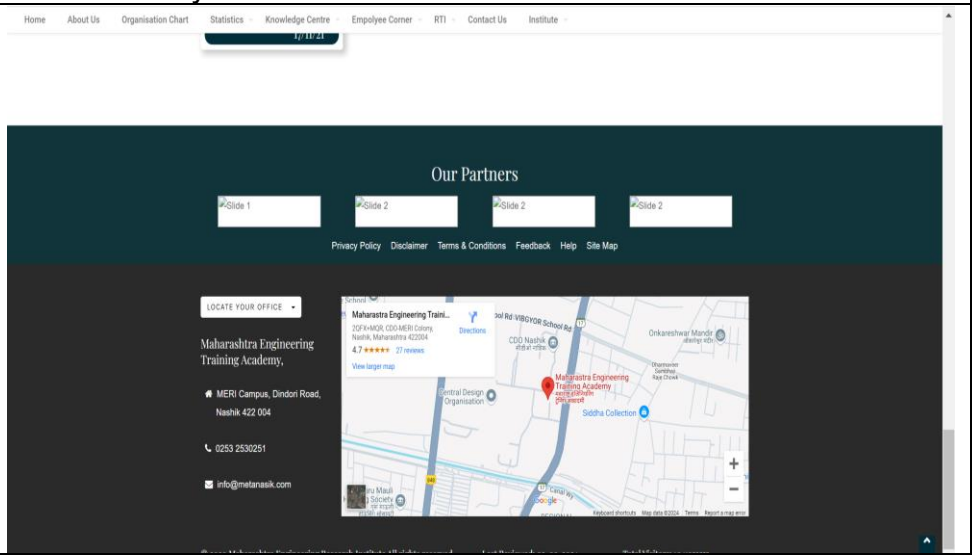
• **Requirement Description: The** External Links Module will provide a curated list of hyperlinked websites relevant to users, enhancing their access to additional resources and information. Each link will be clearly labelled and organized for easy navigation.

Stimulus/Response Sequences: When a user accesses the External Links section, they will see a list of hyperlinked websites; upon clicking any link, the user will be redirected to the corresponding external site, allowing for seamless exploration of additional resources

Data Fields/ Elements:

- Link Label (Text Field)
- URL (Text Field)
- Description (Text Area)
- Category (Dropdown)
- Open in New Tab (Checkbox)

Requirement Name	External Links
Requirement Description:	The External Links Module will provide a curated list of hyperlinked websites relevant to users, enhancing their access to additional resources and information
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality • External links
Trigger	Users access the External Links section from the menu, which displays a list of hyperlinked resources. Clicking on any link redirects them to the corresponding external site

Business Context:	The **External Links Module** enhances user experience by providing a curated list of relevant websites, facilitating easy access to additional resources and information related to the SLTAC maintained by the site Administrative.
User Screen	

8.14.10 Requirement ID: (SLTAC)FR-10

Requirement Name: Footer Links

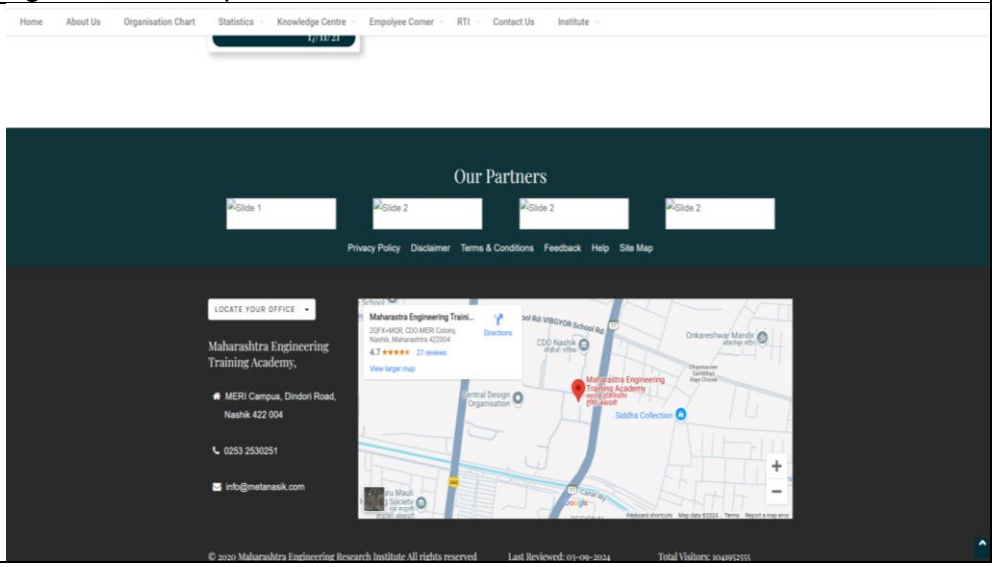
• **Requirement Description:** The links that appear at the bottom of every page are referred as Footer Links. These are useful for the providing the useful and miscellaneous link of the website.

Stimulus/ Response Sequences: On a click of the respective footer link, user can view the details.

Data Fields/ Elements: The following modules will necessary be cover under the Archive

- Privacy Policy
- Disclaimer
- Terms & Conditions
- Feedback
- Help
- Policies
- Site Map

Requirement Name	Footer Links
Requirement Description:	The links that appear at the bottom of every page are referred as Footer Links
Primary Actor:	Administrator

Main Success Scenario:	Screen Containing following Functionality ➢Privacy Policy ➢ Disclaimer ➢ Terms & Conditions ➢ Feedback ➢ Help ➢ Policies ➢ Site Map ➢ Contact Us
Trigger	Users click on footer links to access relevant information, facilitating quick navigation to resources.
Business Context:	**Footer Links** module provides essential links for users, ensuring easy access to important documents like Privacy Policy and Terms & Conditions, enhancing navigation and support ,administrative has the right's to edit, update, delete for footer links .
User Screen	

9 Central Design Organization CDO

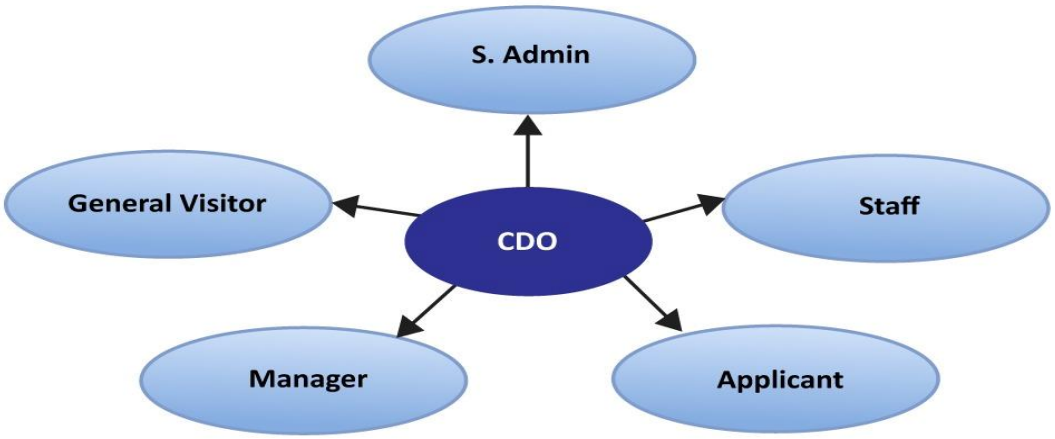
9.1 Introduction

The **Central Design Organization (CDO)** is to serve as a pivotal authority in the design and engineering of water resource projects within Maharashtra. CDO aims to enhance the efficiency and effectiveness of water resource management through the development and implementation of standardized design protocols for various projects, ensuring uniformity and quality across the state. By promoting innovative engineering practices and integrating advanced technologies and methodologies, the organization seeks to improve the sustainability and resilience of water infrastructure.

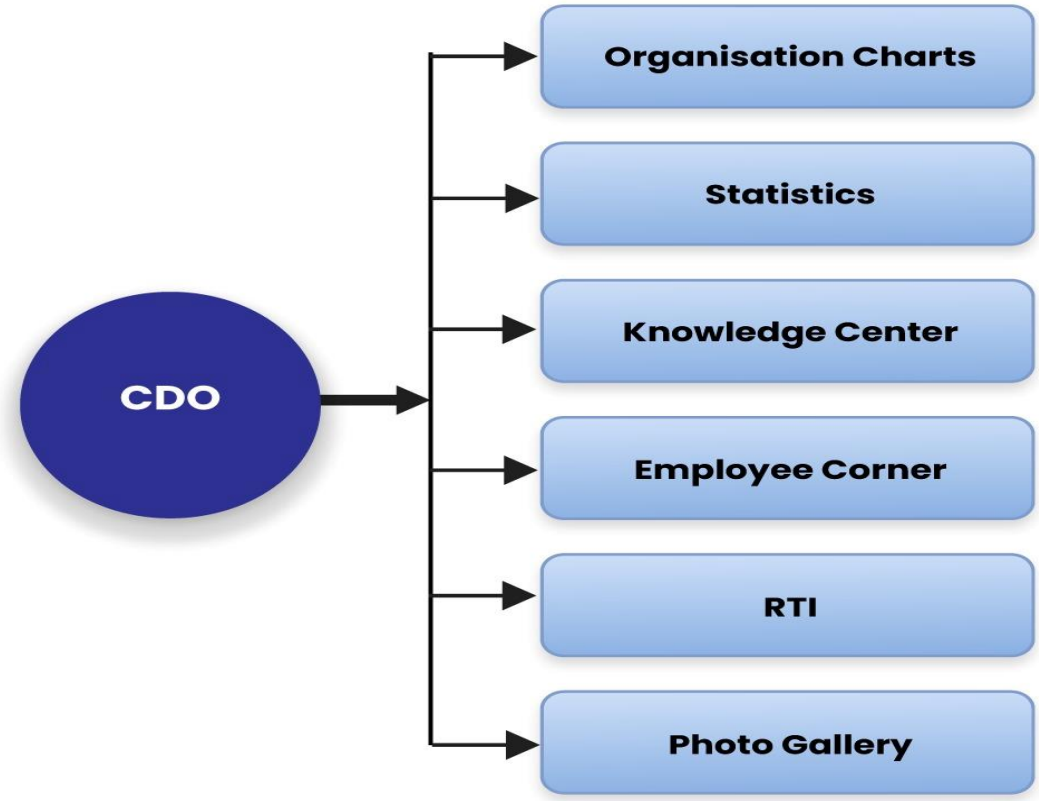
9.2 Business Context:

The Central Design Organization (CDO) is to serve as a pivotal authority in the design and engineering of water resource projects within Maharashtra. CDO aims to enhance the efficiency and effectiveness of water resource management through the development and implementation of standardized design protocols for various projects, ensuring uniformity and quality across the state. By promoting innovative engineering practices and integrating advanced technologies and methodologies, the organization seeks to improve the sustainability and resilience of water infrastructure.

To further strengthen capabilities, CDO organizes training programs and workshops for in service engineers, keeping them abreast of emerging trends and technologies in water resource management. It also establishes frameworks for quality assurance and evaluation of design outputs, ensuring that all projects meet established safety and performance standards. Furthermore, CDO prioritizes regulatory compliance, ensuring that all designs adhere to legal, environmental, and safety regulations. Through these initiatives, the CDO aims to enhance the design capabilities within Maharashtra's water resource management sector, ultimately contributing to the effective allocation, planning, and management of the state's water resources.

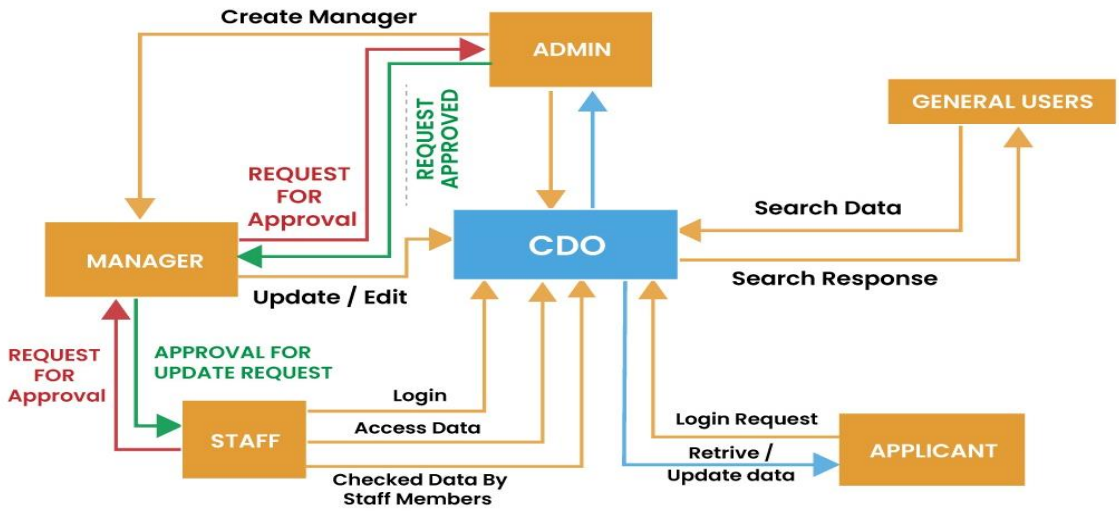


9.3 System Architecture:



9.4 Solution Diagram:

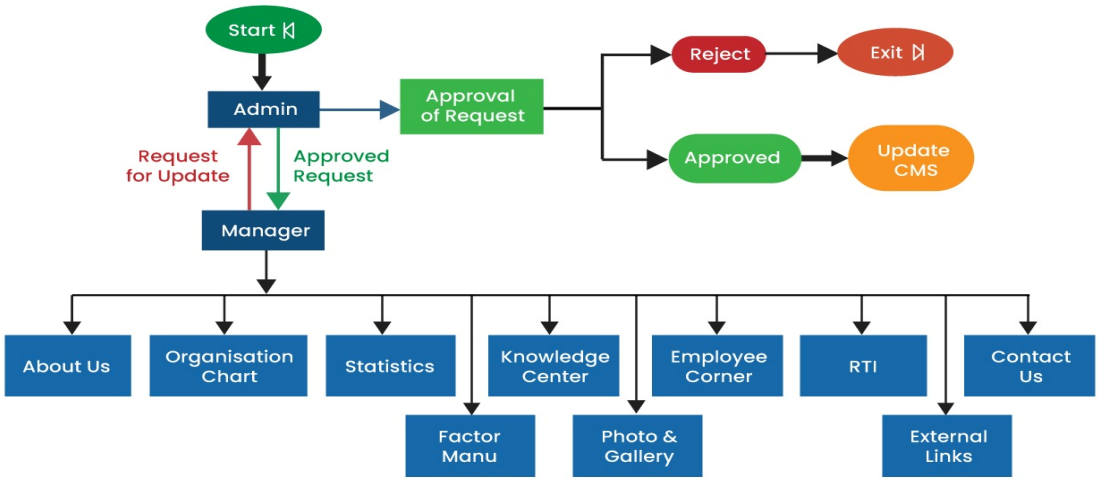
Overall Flow Of CDO:



9.5 Business Process Flow

This high-level explanation provides clarity on the roles, data flow, and processes involved in the system, which can then be broken down further into more detailed diagrams or business processes based on your software requirements.

Business Flow of CDO



9.6 System Architecture

9.7 A. Hierarchical Model Structure:

The hierarchical model can be split into **three main layers**:

- **Application Logic Layer**
- **User Interface Layer**
- **Server/ cloud API Layer.**
- **Data Storage Layer**

Each layer will have specific responsibilities and roles, as described below.

B. User Interface Layer (Presentation Layer)

This layer handles **user interactions**. It includes various user roles that interact with the system based on the permissions assigned to them.

Users:

9. **Application Layer**:
    - Highest level of access and all content of web of META which Leads by content- Managers
10. **Admin**
    - Handles tasks like managing data, assign the role of manger for each content within the boundaries set by the Admin.
11. **Staff**
    - Focuses on validating, checking, and updating data for internal use.
12. **General Users**
    - Public-facing role, primarily to search and retrieve data from the system.

C. **Cloud Server (API) Layer**

- **API Gateway**:
    - Acts as a bridge between the web application and the data storage.
    - Manages requests and responses between the application and the database.
    - Ensures security, scalability, and performance optimization.
- **Functions**:

- Request Validation
- Data Security and Encryption
- Load Balancing for high availability
- Handling external data sources (if integrated with external services)

D. Data Storage Layer (Database Layer)

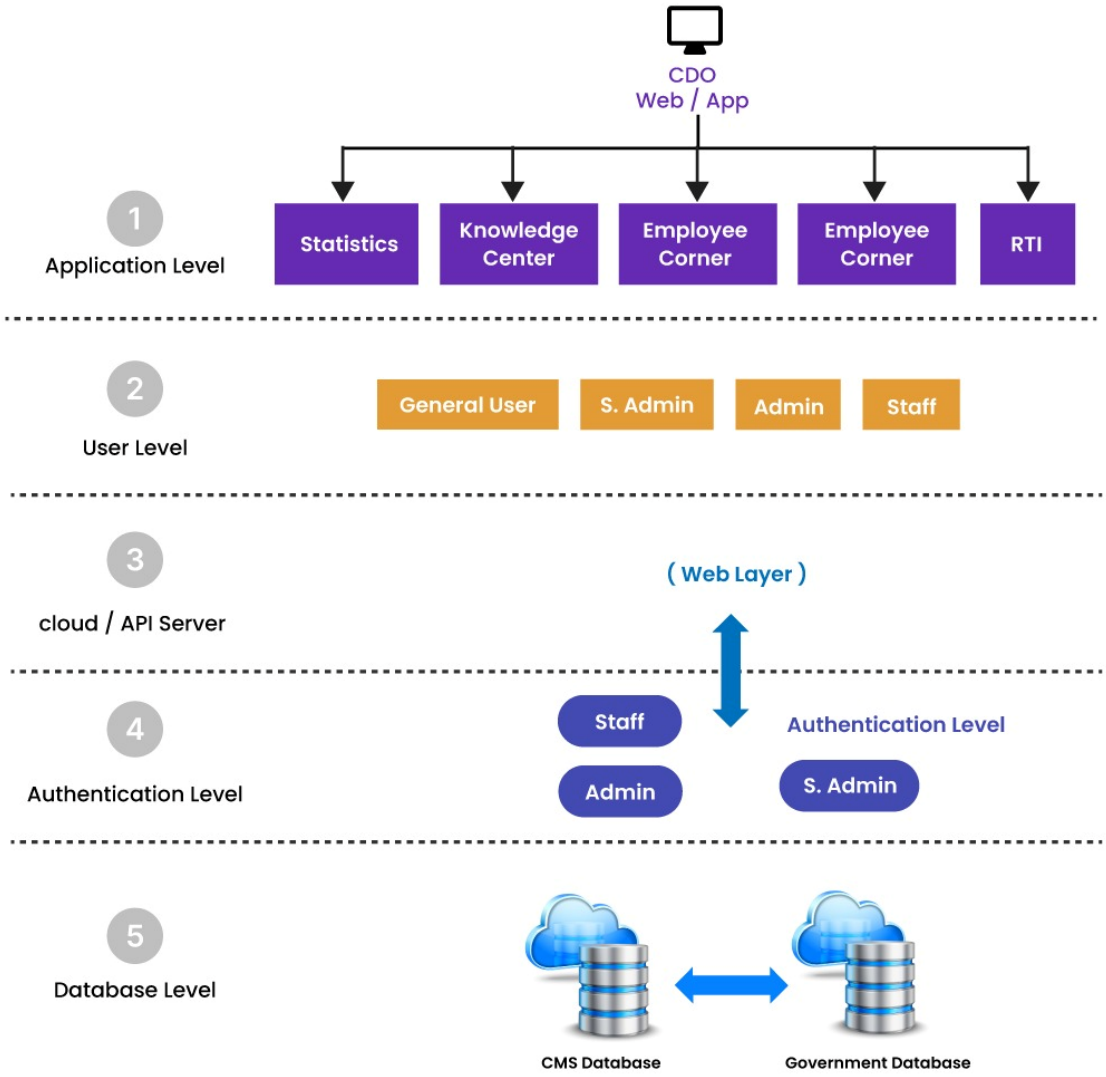
This layer is responsible for **data storage** and managing the interaction between the application and the stored data.

Data Storage Components:

5. **Database (Central Data Repository: (consist of CMS and Govt. database)**
    - Stores all data, including:
        - User information and permissions
        - Records for reporting, updates, and data checks
        - Data accessed by General Users,staff , applicants ,admin, super admin.
    - Provides the necessary data based on requests from the web application.
6. **Data Access and Management**
    - Controlled by the web application.
    - Only specific roles (Super Admins, Admins, Staff) can add, modify, or delete data.
    - General Users can search and view data, but cannot modify it.

9.8 Hierarchical Model

Hierarchical Model



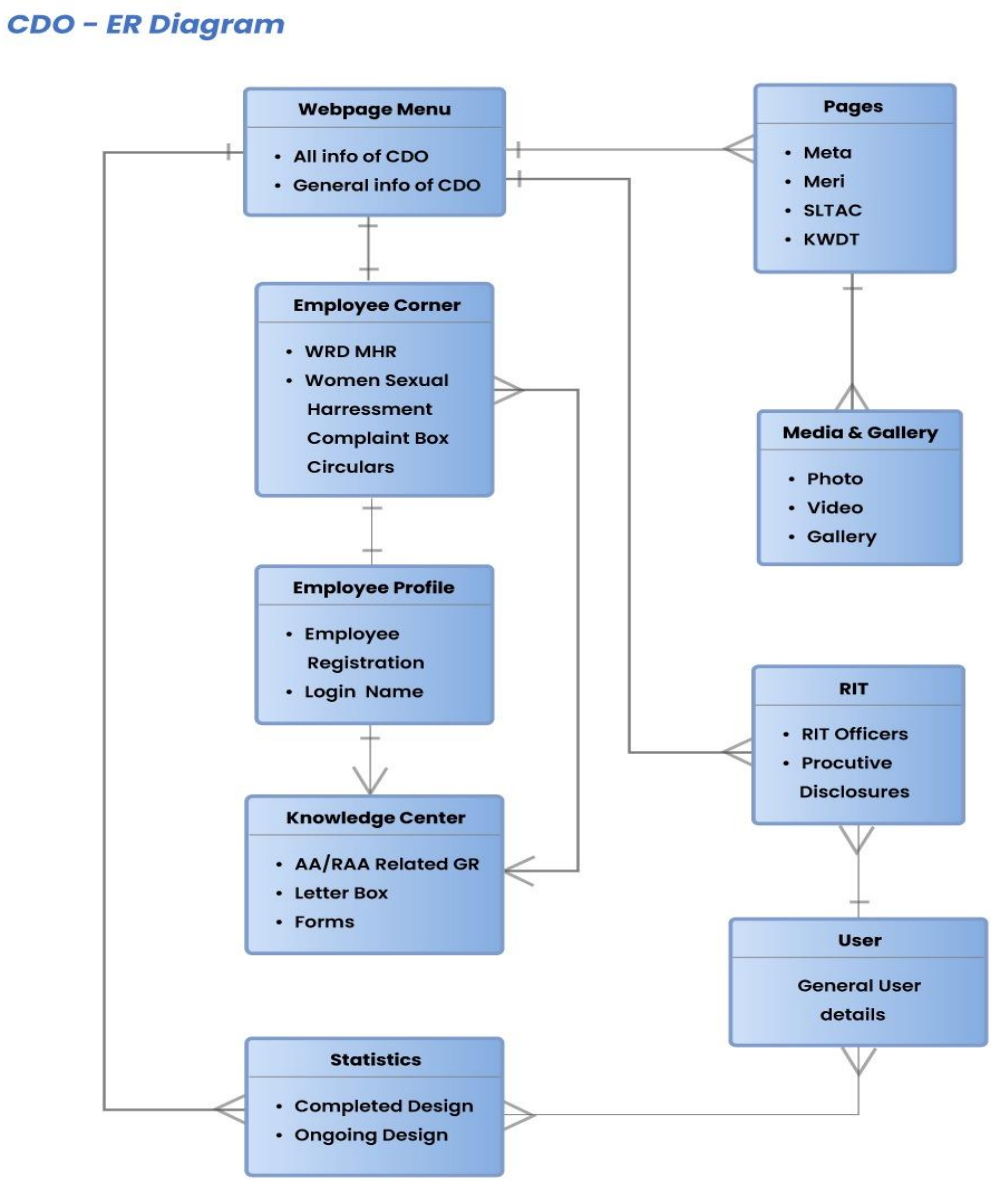
9.9 Navigation Structure

S. No.	Tabs/Links	Module	Menu Location
1.	Common Features • Skip to Main Content • Skip to Navigation • Screen Reader Access [CMS Page] • Accessibility options [Dynamic Page] o Font +/- [Functionality] o Color option [Functionality] Print [Functionality] • Todays Visit Count, Total visit Count, Date of last reviewed [Dynamic Page] • Search within site [Search Website With Google Customized Search] • Site Map • Marathi/English Version of each webpage	Dynamic + CMS	Common Features
2.	Home	Dynamic	Main Menu
3.	About Us All about CDO	Content (CMS)	Main Menu
4.	Statistics • Completed designs • Ongoing designs	Content (CMS)	Main Menu
5.	Knowledge center • AA/RAA related GR • Hand books • Letter box	Content (CMS)	Main Menu

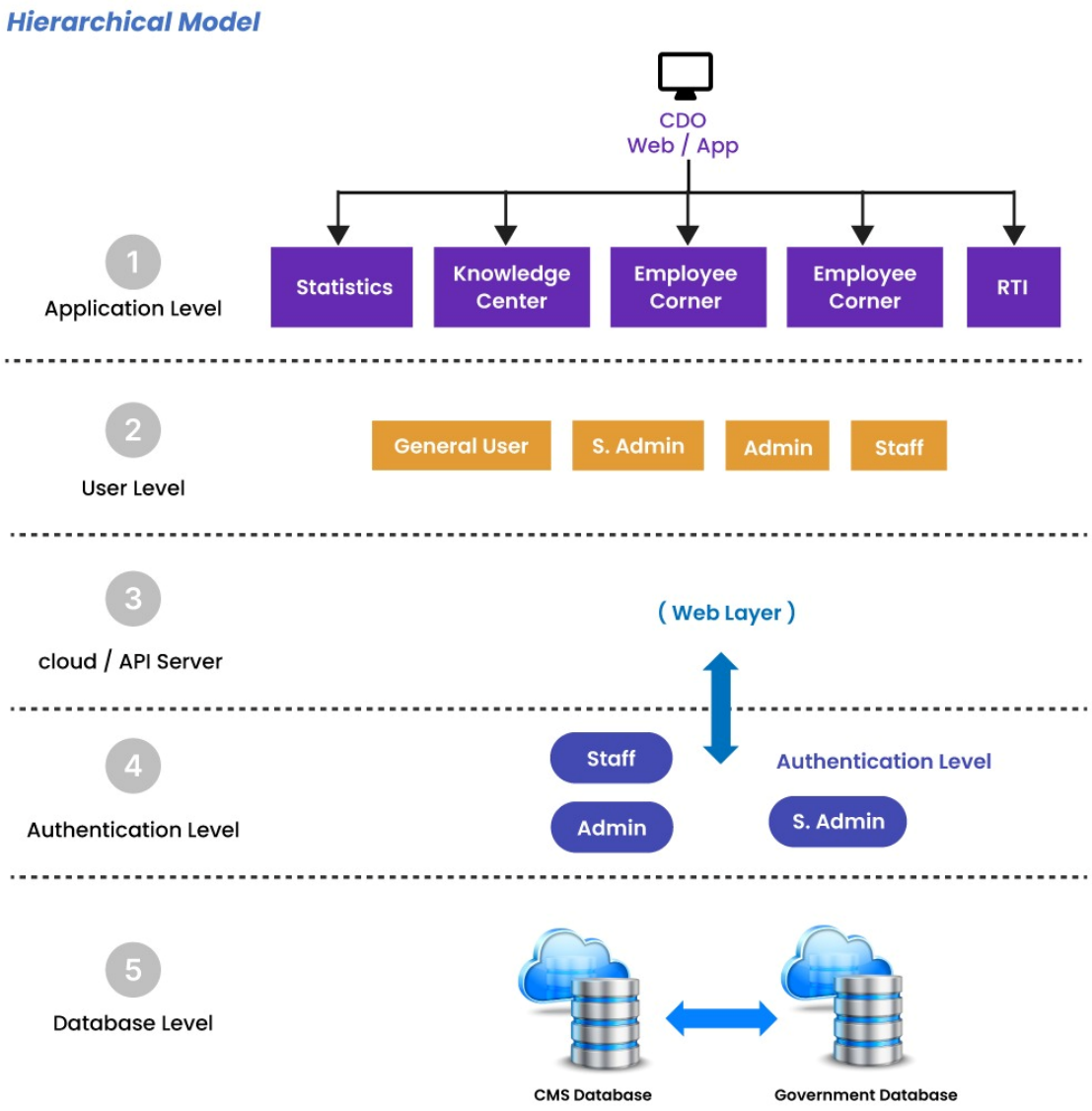
	• Forms important for AA		
6.	Employe Corner • WRD Maharashtra • Women sexual harassment complaints box • Circulars	Content (CMS)	Main Menu
7.	RTI • RTI ACT • RTI officers details • Proactive disclosures	Content (CMS)	Main Menu
8	Contact us • All about contacts		
8.	Header Menu • Screen reader access • Accessibility option • Font+/- • Google custom search • Marathi/ English • Site map • Social media icon • Login.	Content (CMS)	Main menu
9.	Footer menu • Today's visit count • Total visit count • Date of last Reviewed		

	• Link to different policy pages • Relevant logos too • Certificate- compliance of the latest-WCAG, W3C, GIGW		

9.10 Entity Relationship Diagram



9.11 Hierarchical Architecture

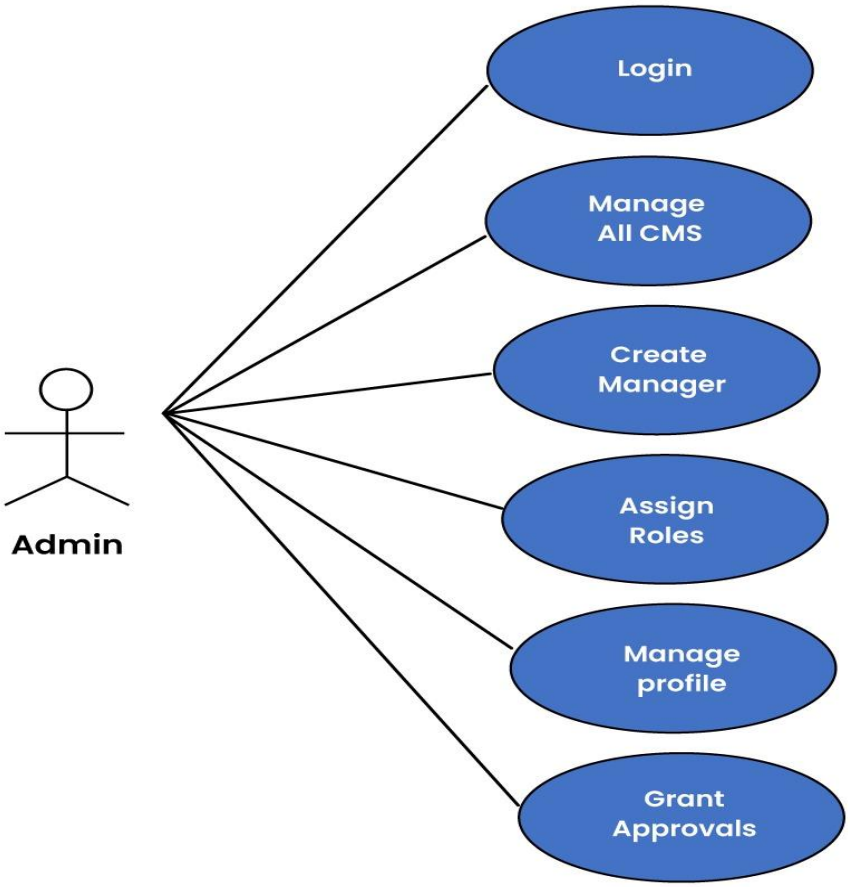


9.12 Use Cases

The proposed flow has been given for general public for visiting the website for viewing general information present on the website and the Administration part for maintaining the website.

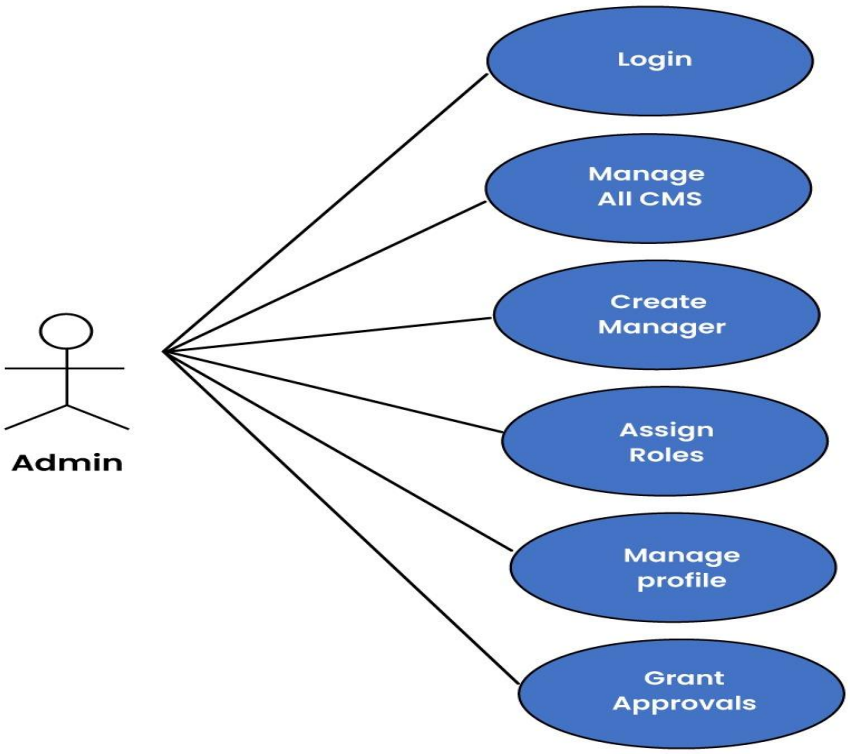
<u>Use case for Admin</u>:

The Proposed Flow has been given for Admin for handling website ‘s contents and administrative part for maintaining the website’s content of relevant departments .



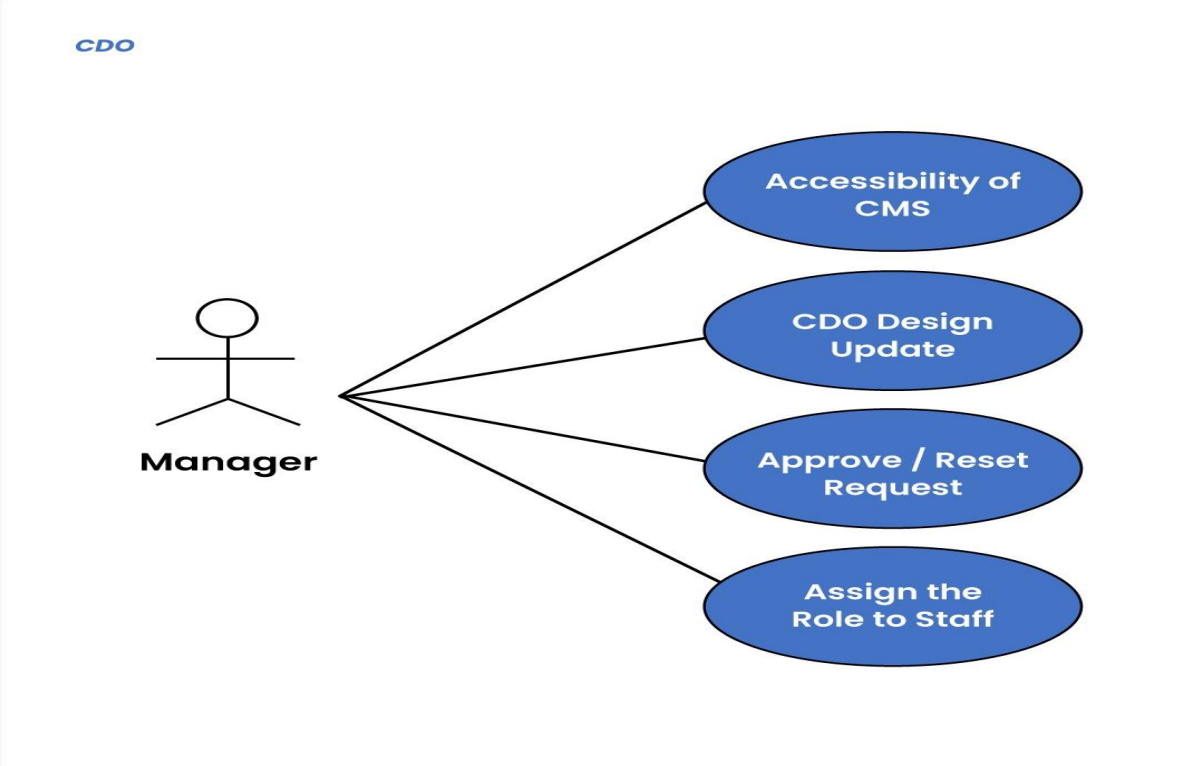
Use case for super Admin:

The Proposed Flow has been given for super -Admin for handling website ‘s contents and administrative part for maintaining the website’s content.

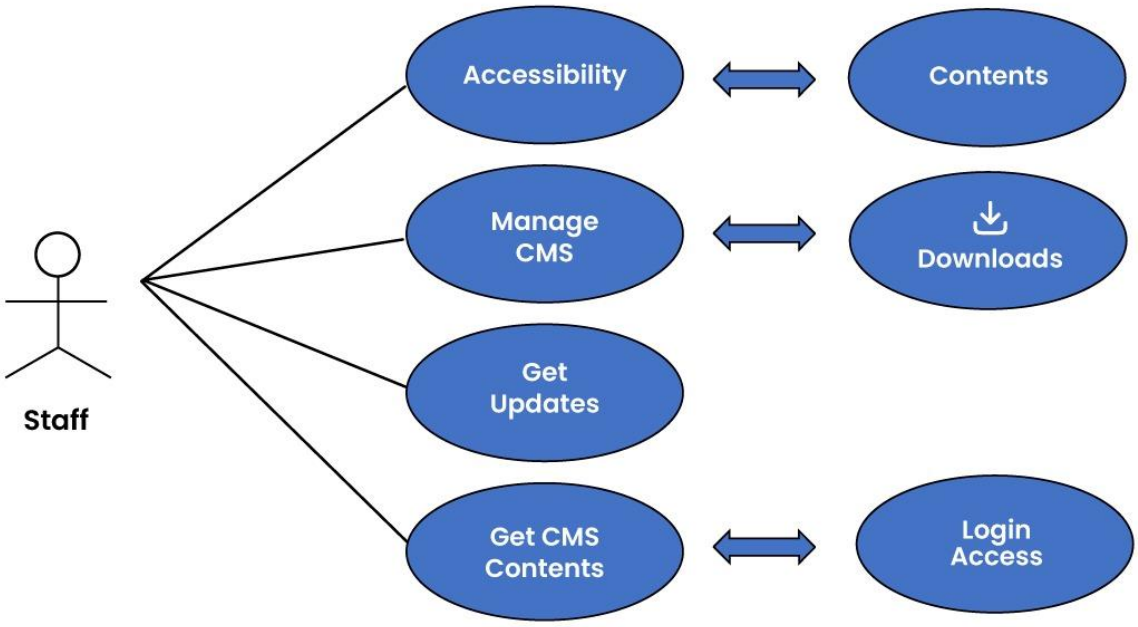


Use case for managers:

The Proposed Flow has been given for Manager who will able to see the web contents and access the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.

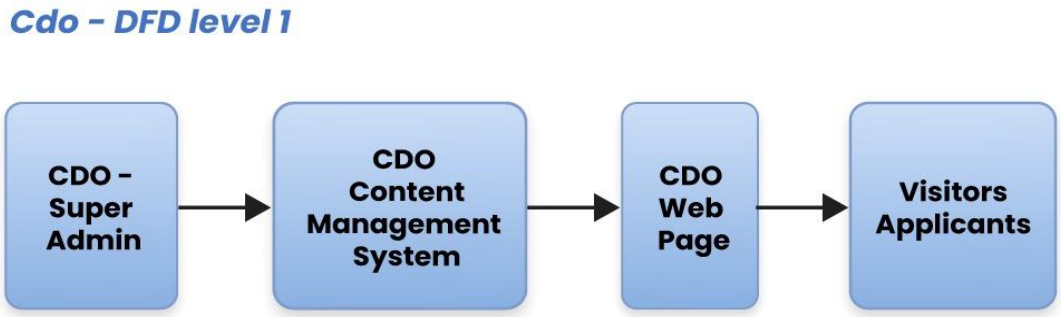


Use case for Staff:The Proposed Flow has been given for staff who will able to see the web contents and access, update/edit the details. external users will be benefited through web contents to get information about different important information provided by government and by the WHRD Department.

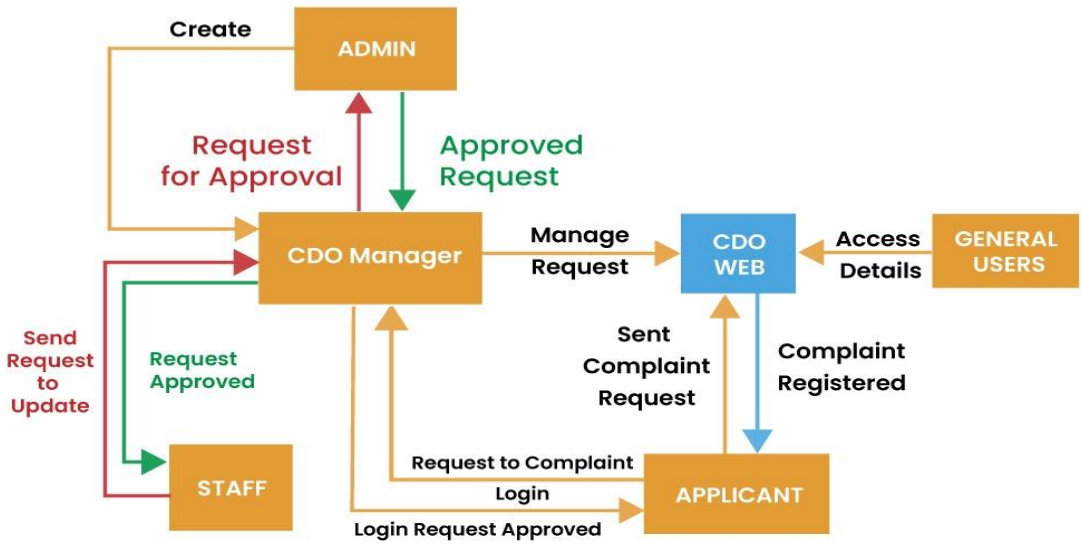


Data Flow Diagrams

DFD – Level 1



DFD – Level 2



9.13 Detailed Requirement

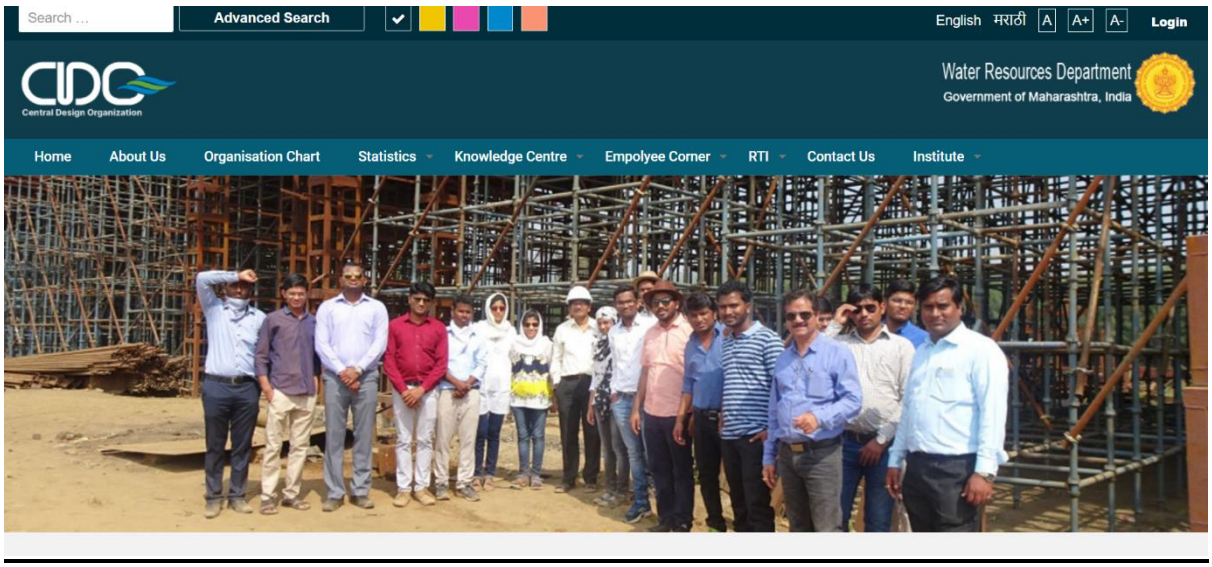
9.13.1 Requirement ID: FR-1

Requirement Name: Home (Menu Navigation) (Static Page)

Requirement Description: This would be provided under the Menu Bar of the Home Page. The Mouse hover effect is given to its CSS Style.

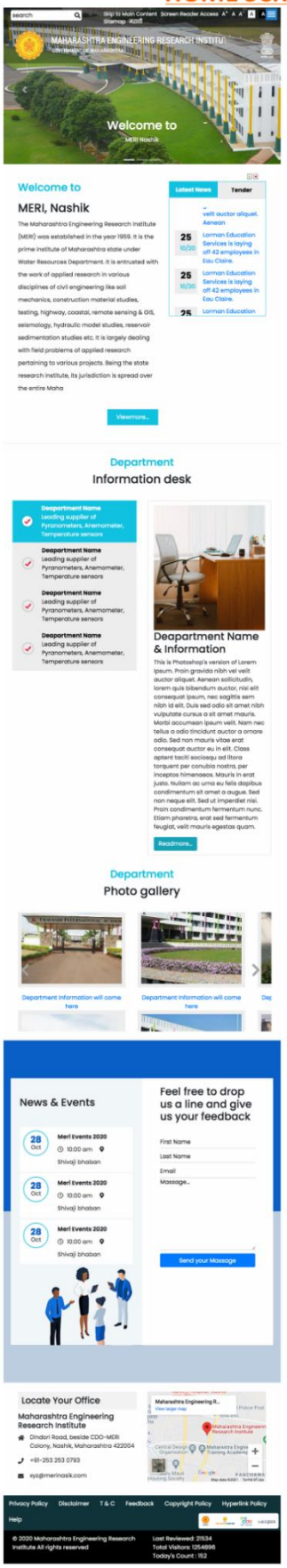
User Screen:

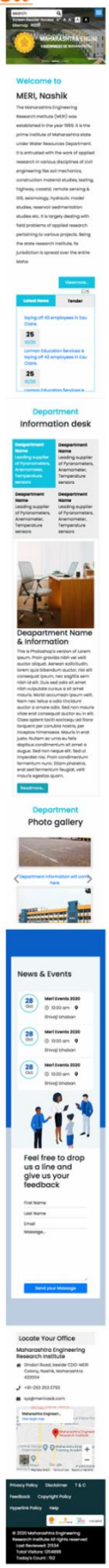
HOME SCREEN – Desktop View



<u>HOME SCREEN – Mobile View</u>

HOME SCREEN – Tablet & Mobile View





Stimulus/ Response Sequences: The user will direct to the main page of the website, on once clicking on the menu.

Data Fields/Elements: Not Required

Requirement Name:	Home (Menu Navigation)
Requirement Description:	The user will direct to the main page of the website, on once clicking on the menu
Primary Actor:	User, Administrative
Main Success Scenario:	Screen Containing following Functionality • Menu
Trigger	when the user interacts with the Home menu item by hovering over it, followed by a click action to access the main page of the website.
Business Context:	Home page will display the details information of the CDO
User Screen	

9.13.2 Requirement ID: (CDO)FR-2

Requirement Name: About Us

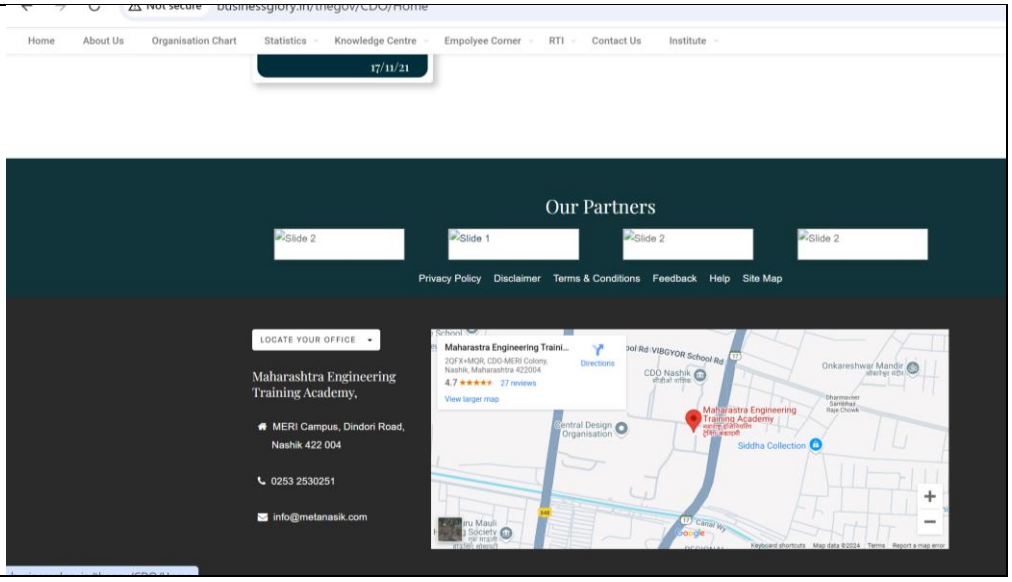
• **Requirement Description:** The menu for About Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the brief introduction about The Central Design Organization (CDO). This will be a content-based CMS page managed by the Site Administrator.

Stimulus/ Response Sequences: On moving the cursor over the About Us tab, the following sub-menus will appear on the drop down.

Data Fields/ Elements:

About Us

Requirement Name:	About Us
Requirement Description:	This will help the department to give the brief introduction about CDO
Primary Actor:	User, administrative
Main Success Scenario:	Screen Containing following Functionality • General Information • Work Profile
Trigger	when a user moves their cursor over the About Us menu item on the Home Page, prompting the dropdown menu to display the sub-menu options
Business Context:	The goal of improving user experience and accessibility of information regarding The CDO. By offering a well-structured and informative About Us section, the department can effectively communicate its mission and functions to stakeholders and the public

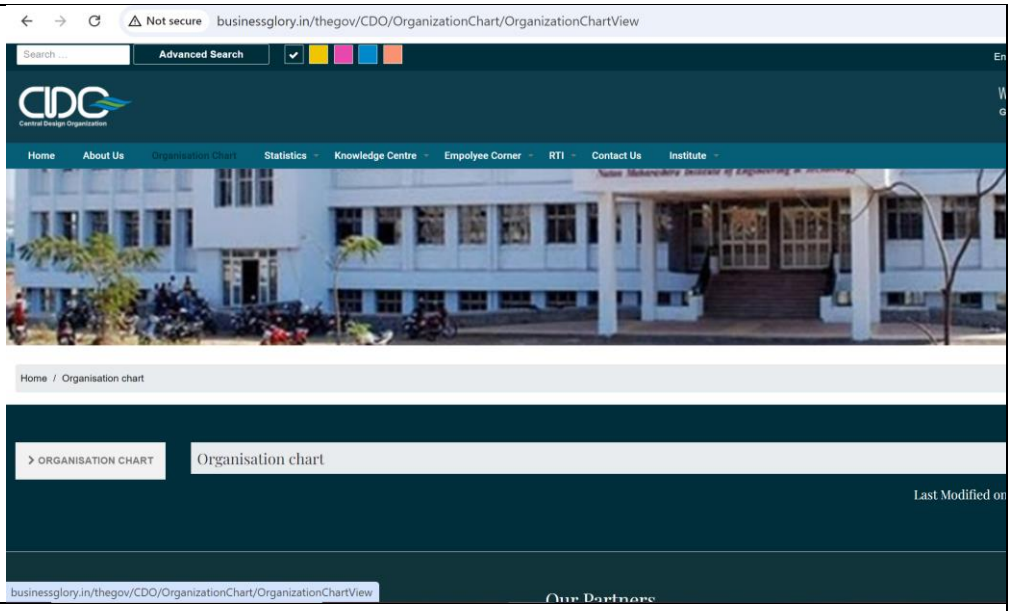
User Screen	

9.13.3 Requirement ID: (CDO)FR-3

Requirement Name: Organisation Chart

• **Requirement Description:** The menu for Organization Chart would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the Organization Chart in Central Design Organization (CDO). This will be a content-based CMS page managed by the Site Administrator.

Requirement Name:	Organisation Chart
Requirement Description:	This will help the department to give the Organization Chart in CDO
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator
Main Success Scenario:	Screen Containing following Functionality • Organisation Chart
Trigger	When a user hovers over the Organisation Chart menu item in the main Menu Bar, prompting the display of the Organisation Chart content
Business Module:	The Organisation Chart module provides a clear visual representation of the CDO's structure, facilitating transparency and communication. Managed via a CMS, it allows for easy updates, ensuring stakeholders have access to current organizational information.

User Screen	

9.13.4 Requirement ID: (CDO)FR-4

Requirement Name: Statistics/ Design Assignments Module

• **Requirement Description:** The Design Assignments Module will consist of two static pages: one for Completed Design Assignments and another for Ongoing Design Assignments. Each page will feature a table listing the respective assignments, with options to download content in Word format for text and Excel format for tabular data.

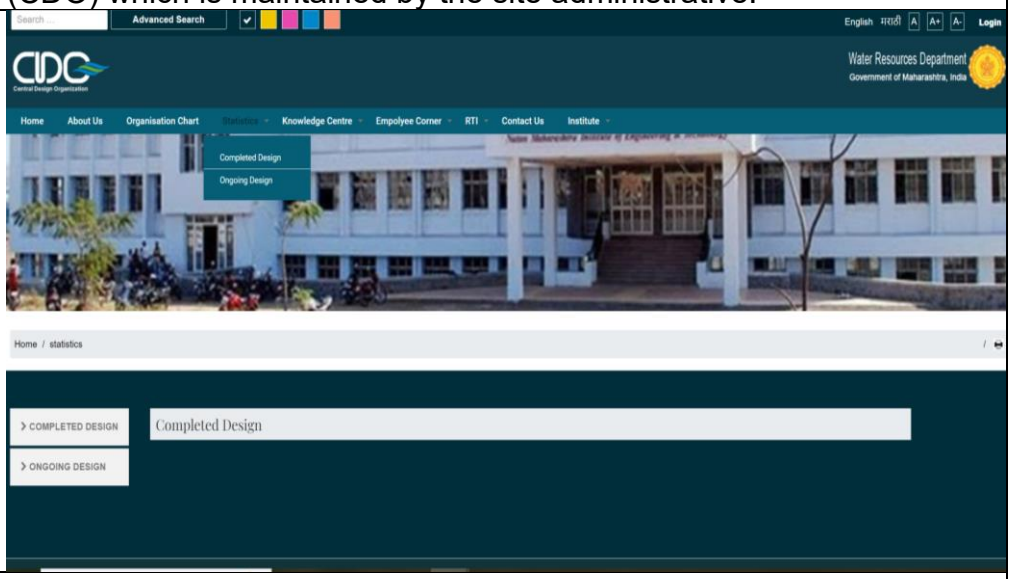
Stimulus/Response Sequences: When a user accesses the Design Assignments Module, they will see two links: one for Completed Design and another for Ongoing Design. Clicking on either link will display a static page containing a table of assignments, along with downloadable options for text in Word format and data in Excel format.

Data Fields/Elements:

1. Completed Design Assignments (Static Page)
   - Assignment Title
   - Completion Date
   - Description
   - Download Text (Word)
   - Download Table (Excel)

2) Ongoing Design Assignments (Static Page)
   - Assignment Title
   - Start Date
   - Expected Completion Date
   - Description
   - Download Text (Word)
   - Download Table (Excel)

Requirement Name:	Statistics/ Design Assignments Module

Requirement Description:	The Design Assignments Module will consist of two static pages: one for Completed Design Assignments and another for Ongoing Design Assignments
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality o Completed Design o Ongoing Design
Trigger	User clicks on the "Design Assignments" link in the navigation menu
Business Module:	CMS-managed platform that displays two static pages: one for completed design assignments and another for ongoing assignments. Each page includes a table with assignment titles, dates, and descriptions, along with options to download information in Word and Excel formats. This module enhances transparency and record-keeping for design projects within the Central Design Organization (CDO) which is maintained by the site administrative.
User Screen	

9.13.5 Requirement ID: (CDO)FR-5

Requirement Name: Knowledge Centre

• **Requirement Description:** Knowledge Centre menu would be provided under the main Menu Bar of the Home Page. The respective tab will show the information of Awards/Notable works/ Paper published by WRD Officers, rate list, WRD handbooks. Knowledge Centre is sub divided into the sub menus. From those some of the sub menus were handled through CMS & some of the modules will work dynamically.

o Awards/Notable works/ Paper published by WRD Officers: This module will help Department in publishing its Awards/Notable works/ Paper published by WRD Officers on the website. This module will have following features:

Manage Awards/Notable works/ Paper published by WRD Officers through secure online control panel.

Add/Edit/Delete Awards/Notable works/ Paper published by WRD Officers on the website.
Define appropriate Meta tags for each Awards/Notable works/ Paper published by WRD Officers.
Preview and Publish Awards/Notable works/ Paper published by WRD Officers on the website.

o Rate list: Rate List menu will be a content, Page. The CDO Administrator will manage Rate List Content.

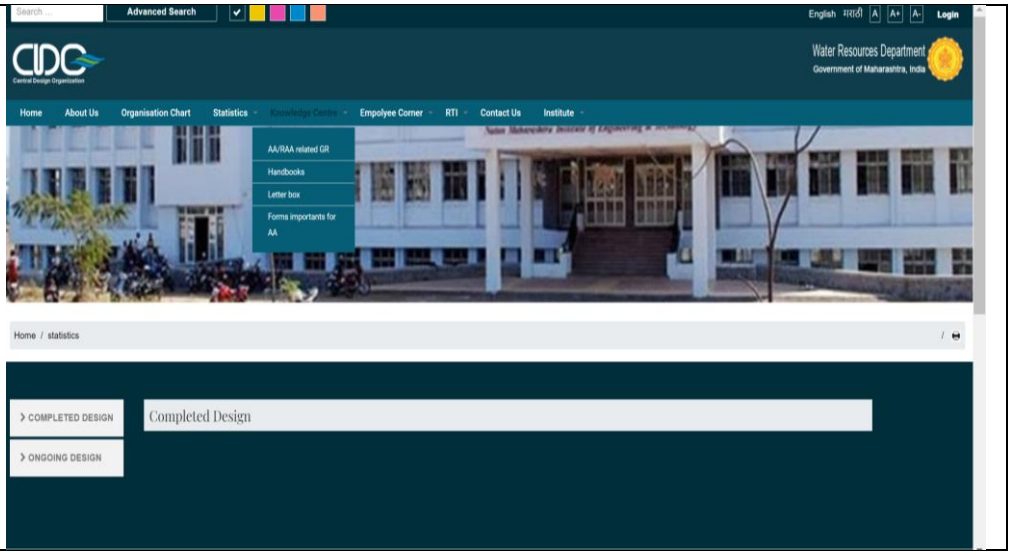
o WRD handbook: WRD handbook menu will be a content, Page. The CDO Administrator will manage WRD handbook Content.

Data Fields/ Elements: The categories under Knowledge Centre will be managed through Knowledge Centre Module.

Knowledge Centre

- Awards/Notable works/ Paper published by WRD Officers
- Rate list
- WRD handbook
- Letter box

Requirement Name:	Knowledge Centre
Requirement Description:	The respective tab will show the information of Awards/Notable works/ Paper published by WRD Officers, rate list, WRD handbooks.
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality • AA/RAA related GR • Handbook • Letter box • Form Important for AA
Trigger	user clicks on the Knowledge Centre menu in the main navigation bar, leading to the display of submenus for easy access to specific categories.
Business Module:	**Knowledge Centre** centralizes information for the Central Design Organization (CDO) and the Water Resources Department (WRD), showcasing awards, notable works, published papers, rate lists, and handbooks maintained by Site Administrative.

User Screen	

9.13.6 Requirement ID: (CDO)FR-6

Requirement Name: Employee Corner Module

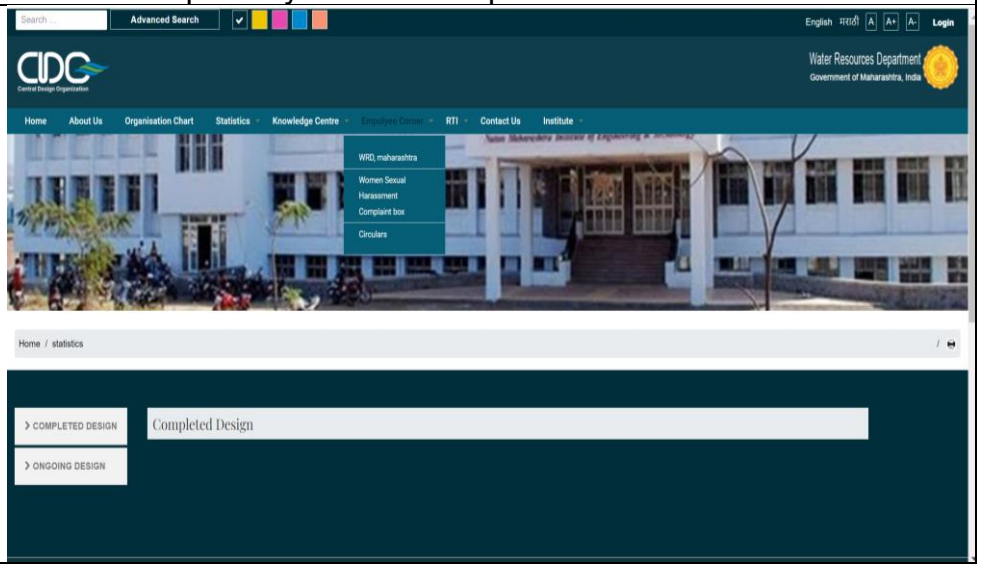
• **Requirement Description:** The Employee Corner Module will serve as a static page that provides essential resources for employees of the Water Resources Department (WRD) in Maharashtra. It will include hyperlinked sections to the PORTAL Employee Corner, a Women Sexual Harassment Complaint Box linked to the Shebox site, and a table of circulars with relevant details that can be downloaded in Excel format.

Stimulus/Response sequences: When a user accesses the Employee Corner, they will see a hyperlinked menu directing them to the PORTAL Employee Corner. Clicking on the Women Sexual Harassment Complaint Box will redirect them to the Shebox site. Additionally, selecting the Circulars section will display a table of relevant details, with an option to download the data in Excel format.

Data Fields/Elements:

2. Hyperlinked Menu to PORTAL Employee Corner (Link)
3. Women Sexual Harassment Complaint Box (Link)
4. Circulars Table (Static Page)
    - Circular Title
    - Date Issued
    - Reference Number
    - Description
    - Download Table (Excel)

Requirement Name	Employee Corner Module
Requirement Description:	It will include hyperlinked sections to the PORTAL Employee Corner, a Women Sexual Harassment Complaint Box linked to the Shebox site, and a table of circulars with relevant details that can be downloaded in Excel format
Primary Actor:	

Main Success Scenario:	Screen Containing following Functionality ○ Hyperlinked Menu to PORTAL Employee Corner (Link) ○ Women Sexual Harassment Complaint Box (Link) ○ Circulars Table (Static Page) • Circular Title • Date Issued • Reference Number • Description • Download Table (Excel)
Trigger	Employee Corner Module is activated when a user clicks on the "Employee Corner" menu option on the home page, leading them to the module's dedicated page
Business Module:	This module is designed to provide vital resources and information for employees of the Water Resources Department (WRD) in Maharashtra. By facilitating easy access to the PORTAL Employee Corner, a dedicated complaint mechanism for harassment, and a downloadable circulars table maintained by the Site Administrative, it aims to promote employee welfare, enhance communication, and ensure transparency within the department.
User Screen	

9.13.7 Requirement ID: (CDO)FR-7

Requirement Name: RTI Content.

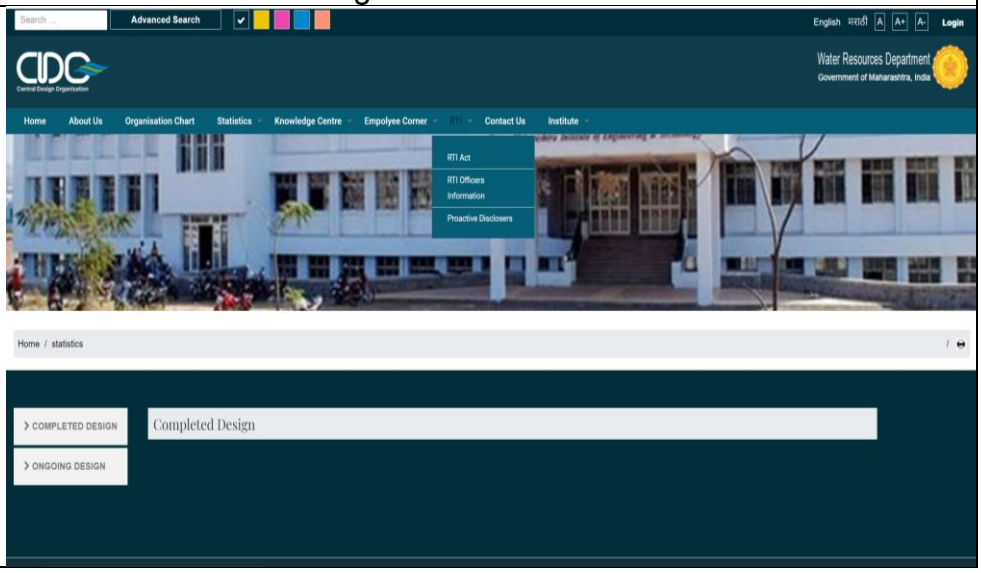
• **Requirement Description:** RTI menu will be a content, Page. The CDO Administrator will manage RTI Content.

Stimulus/ Response Sequences: On a click of RTI, user will view the RTI Details.

Data Fields/ Elements:

1) RTI
   i. RTI ACT
   ii. RTI Officer Info.
   iii. Proactive Discloser.

2) Citizen Charter

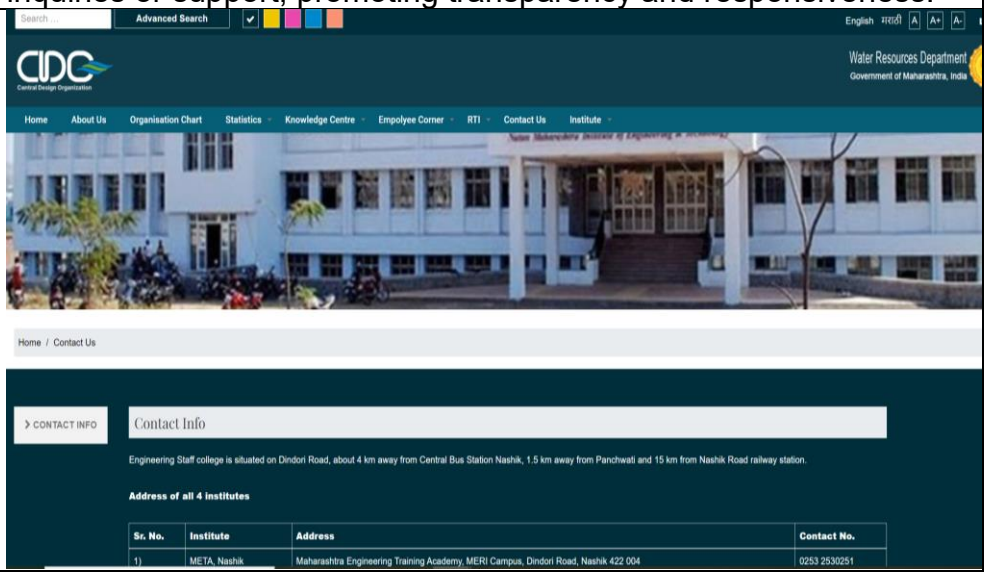
Requirement Name	RTI Content.
Requirement Description:	RTI menu will be a content, Page
Primary Actor:	The CDO Administrator will manage RTI Content
Main Success Scenario:	Screen Containing following Functionality ○ RTI 1) RTI ACT 2) RTI Officer Info. 3) Proactive Discloser. ○ Citizen Charter
Trigger	activated when a user clicks on the "RTI" menu option on the home page, directing them to the RTI details page.
Business Context:	The RTI Content Module provides essential information about the Right to Information Act, RTI officer details, and proactive disclosures, enhancing transparency and accountability within the KWDT. managed by the KWDT Administrator, it empowers citizens to access vital information, supporting civic engagement and informed decision-making
User Screen	

9.13.8 Requirement ID: (CDO)FR-8

Requirement Name: Contact Us

• **Requirement Description:** The menu for Contact Us would be provided under the main Menu Bar of the Home Page accompanied with the Mouse Hover Effect over its CSS Style. This will help the department to give the detail about contact details of The Central Design Organization (CDO). This will be a content-based CMS page managed by the Site Administrator.

Data Fields/ Elements: The categories under Contact Us will be managed through CMS i.e. Content Management System.

Requirement Name	Contact Us
Requirement Description:	This will help the department to give the detail about contact details of CDO
Primary Actor:	This will be a content-based CMS page managed by the Site Administrator.
Main Success Scenario:	Screen Containing following Functionality • Contact us
Trigger	the "Contact Us" menu item in the main navigation bar, the page displaying contact information for CDO is accessed.
Business Context:	The Contact Us module facilitates communication between CDO and its stakeholders by providing essential contact details. This content-managed section ensures users can easily find and reach out for inquiries or support, promoting transparency and responsiveness.
User Screen	

9.13.9 Requirement ID: (CDO)FR-9

Requirement Name: External Links

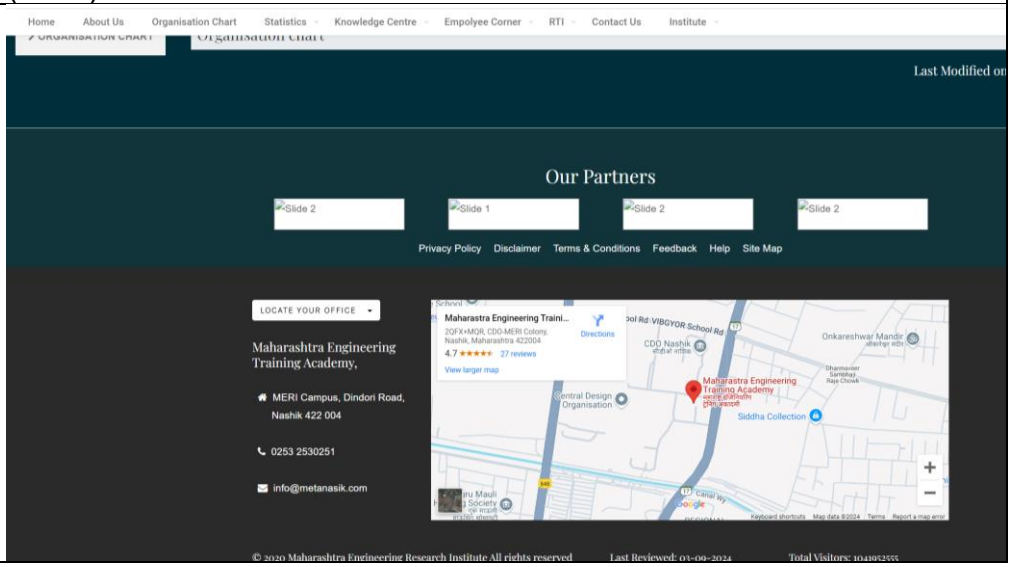
• **Requirement Description:** The External Links Module will provide a curated list of hyperlinked websites relevant to users, enhancing their access to additional resources and information. Each link will be clearly labelled and organized for easy navigation.

Stimulus/Response Sequences: When a user accesses the External Links section, they will see a list of hyperlinked websites; upon clicking any link, the user will be redirected to the corresponding external site, allowing for seamless exploration of additional resources

Data Fields/ Elements:

- Link Label (Text Field)

- URL (Text Field)
- Description (Text Area)
- Category (Dropdown)
- Open in New Tab (Checkbox)

Requirement Name	External Links
Requirement Description:	The External Links Module will provide a curated list of hyperlinked websites relevant to users, enhancing their access to additional resources and information
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality • External links
Trigger	Users access the External Links section from the menu, which displays a list of hyperlinked resources. Clicking on any link redirects them to the corresponding external site
Business Context:	The **External Links Module** enhances user experience by providing a curated list of relevant websites, facilitating easy access to additional resources and information related to the Central Design Organization (CDO).
User Screen	

9.13.10 Requirement ID: (CDO)FR-10

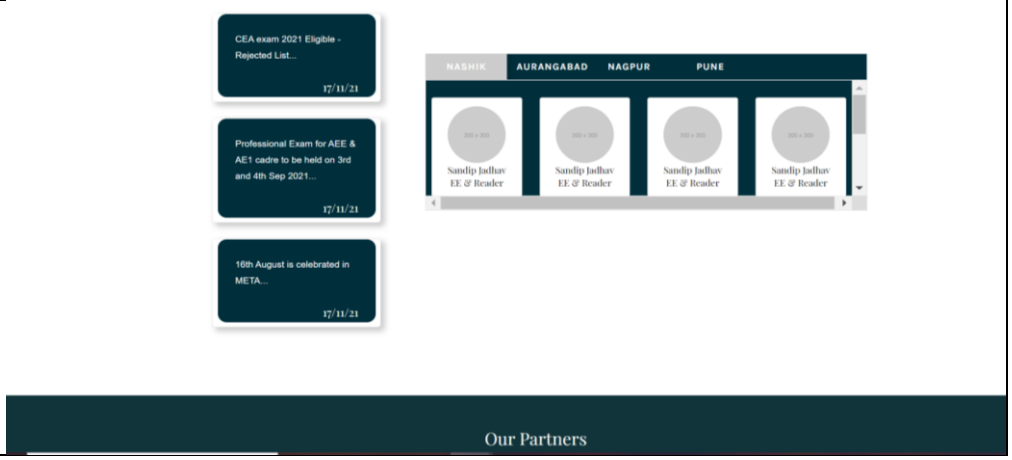
Requirement Name: Media Gallery

• **Requirement Description:** Content comes from the Video/Photo management Module. We developed an advanced Media gallery module to allow website team to publish best quality photos/videos on the website. Some of the unique features of Media gallery module will be:

o Will allow uploading of Image/Video Name, Image/Video, Image/Video Description and CDO tags for each image/Video.

o Will have facility to view/add/edit/delete Images/Video in JPEG, GIF, PNG and FLV format.

o Will allow review, editing and publishing layers to ensure correctness of the content.

Requirement Name	Media Gallery
Requirement Description:	Media gallery module to allow website team to publish best quality photos/videos on the website.
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality • Media Gallery
Trigger	Users interact with the Media Gallery when they access the designated section on the website, allowing them to view, upload, or manage images and videos as needed.
Business Context:	**Media Gallery Module** serves as a central hub for the Central Design Organization (CDO) to showcase high-quality photos and videos. By providing features for uploading, editing, and managing multimedia content,
User Screen	

9.13.11 Requirement ID: (CDO) FR-11

Requirement Name: Footer Links

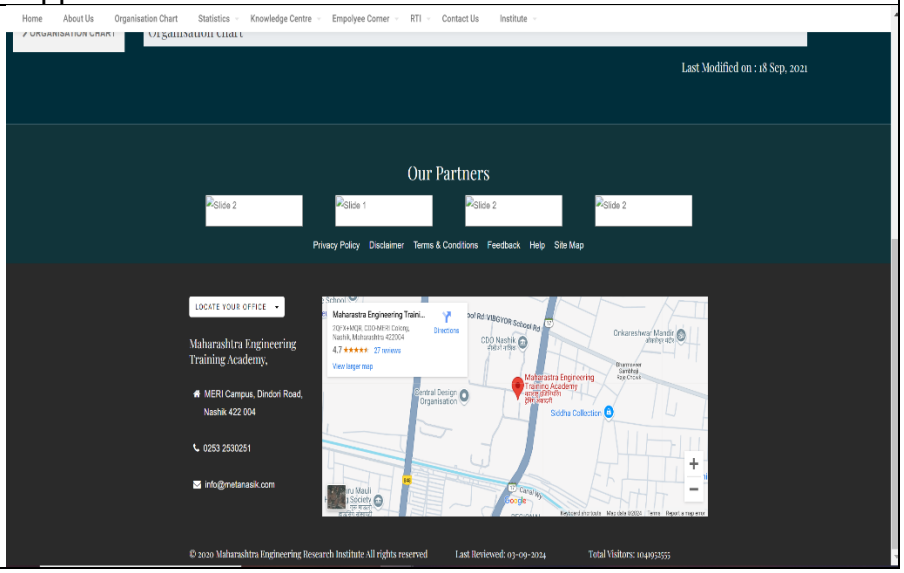
• **Requirement Description:** The links that appear at the bottom of every page are referred as Footer Links. These are useful for the providing the useful and miscellaneous link of the website.

Stimulus/ Response Sequences: On a click of the respective footer link, user can view the details.

Data Fields/ Elements: The following modules will necessary be cover under the Archive

- ➢ Privacy Policy
- ➢ Disclaimer

- ➢ Terms & Conditions
- ➢ Feedback
- ➢ Help
- ➢ Policies
- ➢ Site Map
- ➢ Contact Us

Requirement Name	Footer Links
Requirement Description:	The links that appear at the bottom of every page are referred as Footer Links
Primary Actor:	Administrator
Main Success Scenario:	Screen Containing following Functionality ➢Privacy Policy ➢ Disclaimer ➢ Terms & Conditions ➢ Feedback ➢ Help ➢ Policies ➢ Site Map ➢ Contact Us
Trigger	Users click on footer links to access relevant information, facilitating quick navigation to resources.
Business Context:	**Footer Links** module provides essential links for users, ensuring easy access to important documents like Privacy Policy and Terms & Conditions, enhancing navigation and support.
User Screen	

9.13.12 Requirement ID: (CDO)FR-12

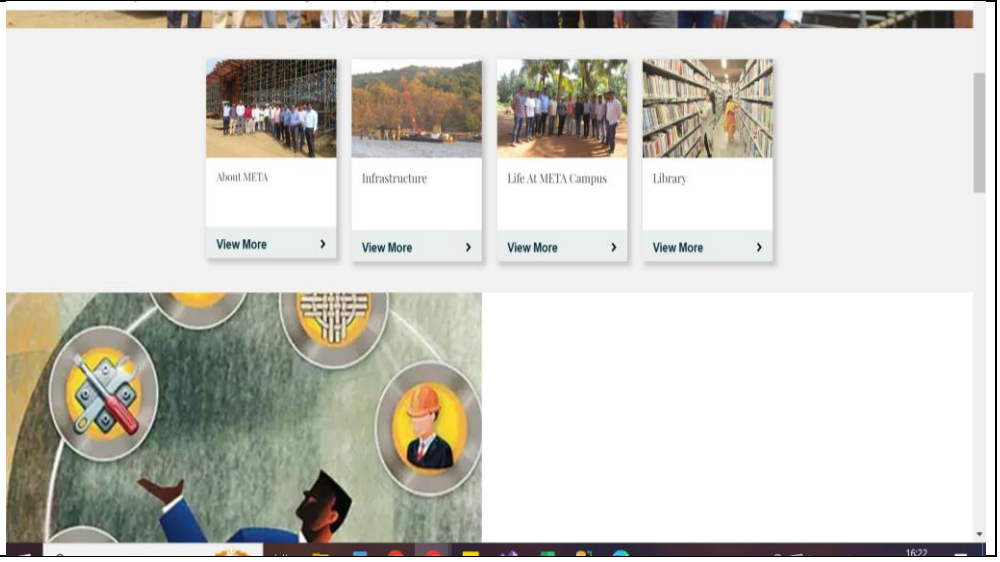
Requirement Name: Latest News

• **Requirement Description:** Latest News Information will be provided on the home page of the Central Design Organization (CDO) website. The respective module will show the data related to the Latest News.

o Will allow Administrator to Publish Latest News & Announcements on the website.

o Administrator will be able to View/Add/Edit/Delete News by adding News Titles and Details through WYSIWYG editor.

o News added here will need to be reviewed and approved before getting published on the website

Requirement Name	Latest News
Requirement Description:	Latest News Information will be provided on the home page of the Central Design Organization (CDO) website
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality • Latest News
Trigger	Users access this section from the home page, while administrators manage news entries through a WYSIWYG editor, ensuring all content is reviewed and approved before publication.
Business Context:	**Latest News** module provides timely updates and announcements on the CDO website, enhancing communication and transparency with users. Managed by the site administrative.
User Screen	

9.13.13 Requirement ID: (CDO)FR-13

Requirement Name: Events

• **Requirement Description:** Events Information will be provided on the home page of the CDO website. The respective module will show the data related to the Events. This module will help department in managing details of their upcoming Events, past events, events catalogue. We will develop this module with the following features:

o Add / Edit / Deactivate Events through secure online control panel.

Manage Events Details including the following:

Events General Information.

Schedule.

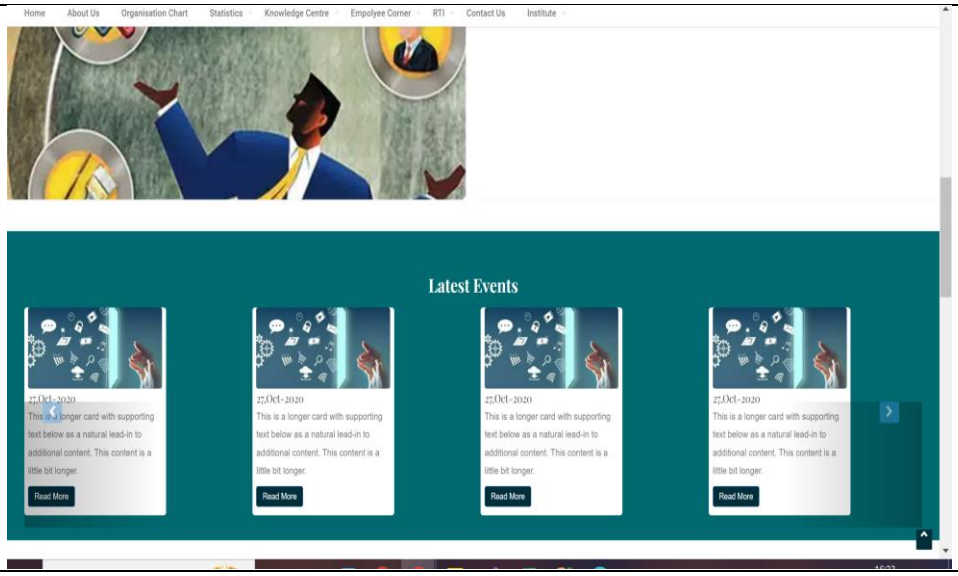
Registration information.

Download documents.

Manage Events details including the following:

- Upload Events Photos.
- Upload Post Events documents.
- Upload Events details.

Requirement Name	Media Gallery
Requirement Description:	Media gallery module to allow website team to publish best quality photos/videos on the website.
Primary Actor:	Administrative
Main Success Scenario:	Screen Containing following Functionality • Media Gallery
Trigger	Users interact with the Media Gallery when they access the designated section on the website, allowing them to view, upload, or manage images and videos as needed.
Business Context:	**Media Gallery Module** serves as a central hub for the Central Design Organization (CDO) to showcase high-quality photos and videos. By providing features for uploading, editing, and managing multimedia content, this module enhances the organization's and maintained by Site Administrative.

User Screen	 Home About Us Organisation Chart Statistics Knowledge Centre Empolyee Corner RTI Contact Us Institute Latest Events 27,Oct-2020 This is a longer card with supporting text below as a natural lead-in to additional content. This content is a little bit longer. Read More