Research Management Portal

(User management Module)

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1.0 Introduction

1.1 Purpose

This SRS outlines the requirements and functionalities related to user registration, login, profile management, access control, and department assignment within the portal. The SRS describes the features and access rules for different user types, including Administrators/Super Users, Elevated Access Users, and Regular Users. It also defines the pages and actions involved in user management, such as the login page, signup page, profile page, users page, access requests page, and associated functionalities.

This SRS covers user management module of the Researcher Management portal and does not encompass the entire system.

1.2 Intended Audience

The document is intended for different types of readers involved in the development, management, marketing, testing, and documentation of the user management module.

The primary audience includes:

Developers: Those responsible for implementing the functionality and technical aspects of the user management module.

Project Managers: Those overseeing the development process, ensuring timely delivery, and managing resources.

Marketing Staff: Those involved in promoting the application and its features to potential users.

Users: Those who will be using the application, including administrators, elevated access users, and regular users.

Testers: Those responsible for testing the functionality and ensuring the quality of the user management module.

Documentation Writers: Those tasked with creating comprehensive documentation for the module.

Suggested reading sequence:

The rest of this Software Requirements Specification (SRS) contains detailed information about the user management module. It is organized into various sections, covering different aspects of the module's functionality, features, and implementation details. The suggested sequence for reading the document is as follows:

1. Table of Contents: It provides an organized overview of the structure and content of this document. It is for readers to navigate specific sections or chapters of interest.
2. Introduction: Provides a high-level introduction to the user management module, its purpose, and its significance within the application. It has reading points 1.1 and 1.2.
   - 1.1 Purpose: It is all about the purpose of user management modules.
   - 1.2 Intended Audience: The section shows the intended readers of the document.
   - 1.3 Product Scope: It includes scope of user management.
   - 1.4 References: It has links and names of references.
3. Overall Description: It provides information about the product's standpoint and its characteristics.
   - 2.1 Product Perspective: It contains comprehensive details on the product that we're developing. It additionally includes user management diagrams and interfaces.
   - 2.2 Product Functions: The product categories and their features are listed in this section. In addition, it has two major diagrams, which are "Representing Different Categories of Users and their Accessibility within a System" and "Representing Basic Data Flow Diagram and Functionalities of Specific Users."

1.3 Product Scope

The scope of the User Management module within the Researcher Management portal includes the following functionalities and features:

1. User Registration:
   - Provide a signup feature for users to create their accounts.
   - Collect essential user information such as first name, last name, email address, password, and date of birth.
   - Implement captcha verification during the signup process to prevent automated registrations.
   - Store user information securely in the user table of the database.
2. User Login:
   - Implement a login feature for registered users to authenticate themselves.
   - Users should be able to log in using their email address and password.
   - Ensure secure authentication and session management for user access.
3. User Types and Access:
   - Support three user types: Administrator, Elevated Access User (Department Head), and Regular User (Researcher).
   - By default, all users are registered as Regular Users.
   - Only the Administrator has the privilege to grant Elevated Access to other users.
   - Administrator access is determined by a key stored in the database, which can be edited to grant superuser privileges.
4. Department Assignment:
   - Associate users with specific departments within the Researcher Management portal.
   - Provide a mechanism for the Administrator to assign users to different departments.
   - Support the predefined departments such as virology, technology, food microbiology, neural networks, and wireless networks.
5. User Profile Management:
   - Allow users to view and update their profile information.
   - Users should be able to edit their first name, last name, email address, password, and date of birth.
   - Implement validation and security measures to protect user information.
6. Access Control and Security:
   - Ensure secure storage of user passwords through encryption.
   - Implement appropriate access controls and authorization mechanisms based on user types and privileges.
   - Enforce data privacy and protection measures to safeguard user information.

The scope of the User Management module is focused on providing user registration, login, user type management, department assignment, and basic user profile management functionalities. It does not include extensive user administration features like user role management, user activity tracking, or advanced user permissions. Those features may fall under the scope of an extended or separate module specifically dedicated to user administration.

1.4 References

1. Creately. (2023, 05 24). *Creately*. Retrieved from Software Requirements Specification: https://creately.com/app/#
2. Edison. (2023, 05 24). *Edison*. Retrieved from Mobile Applications: https://www.edsd.com/portfolio/mobile-applications
3. EDU.SA. (2023, 05 24). *EDU.SA*. Retrieved from PDF Article on SRS Documents: https://m.mu.edu.sa/sites/default/files/content/2019/10/Final%20report.pdf
4. GitHub. (2023, 05 25). *GitHub*. Retrieved from Software Requirement Specifications: https://github.com/topics/software-requirement-specification
5. Req Test. (2023, 05 24). *Req test*. Retrieved from Blog - Functional and Non-functional Requirements: https://reqtest.com/requirements-blog/functional-vs-non-functional-requirements/
6. Wikipedia. (2023, 05 24). *Wikipedia*. Retrieved from Software Requirement Specifications: https://en.wikipedia.org/wiki/Software_requirements_specification

2.0 Overall Description

2.1 Product Perspective

The product that our company is working on is a Research Management Portal for our client which works as a centralized platform for managing different resources and departments along with the users within an organization. The portal is designed with the main objective of producing an enhanced way of User management along with the specific functionalities/Accessibility to specific users.

Here, the main portion we are working on here is the User management module for the Portal where the users, user information and their accessibility are taken care of. As for the basic outline of the module, there are three different access levels and categories of the users i.e., Administrator/Super User (System Admin), Elevated Access User (Department Head), and Regular User (Researcher).

Moreover, regarding the relating the system requirements and the interfaces between the access-levels within the module, the administrator is pre-defined using a key stored within the database which is edited in the database to elevate the user to a Super user status once the user signs up. However, the signup process for the administrator is going to be the same as for a regular user. Since the Administrator is the one who can perform enhanced control over the system from the core, the elevated user access is also granted by the Administrator. And for the regular user, every user who signs up without any pre-defined keys within the database, will be assigned as a Regular User by default.

To make things easier regarding the product and the basic outline of the User management module, a diagram showing the major components of the system and its interfaces is provided below.
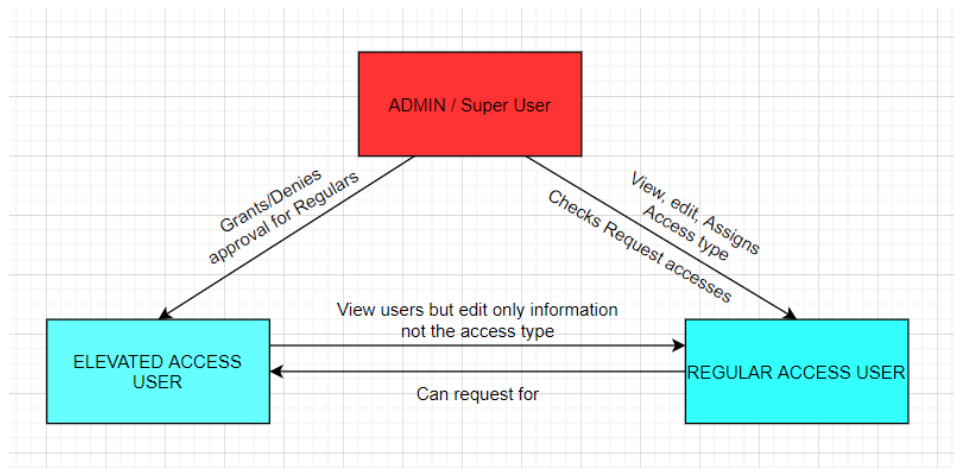
Figure 1: Representing the interfaces between Users and their functions within the system

2.2 Product Functions

As by the named term 'User Management Module', this product is a complete package that provides multi-purpose functionalities regarding the management of users and their information. The main goal of this product is enhanced management of users and their data.

For the basic layout, the module has a login page and a signup page for both registered and new users. The users are required to enter their username and password if they already have one to Log in. Likewise, the users are required to enter their information such as email address, password, First & Last name, and their date of birth in order to Sign up as a new user.

Once the user logs in or signs up, they are logged in either as admin or elevated access user or a regular user which is verified by using the pre-defined data key stored within the database. And when the user is logged in, there are specific welcome pages for each respective user. Since there are three different categories of users within the product, each of them has its own functionalities and accessibility features that they can access which are described below in a detailed way.

1. Administrator/Super User (System Admin)

The Admin User or Super User is the main user of this module that is able to access the product from inside the system and is also responsible for major functionalities that the product is able to do.

There are four different tabs that the Admin User has access to within the module which are,

- The Welcome page Tab,
- My Profile Tab,
- Users Tab,
- Access Requests tab

Now, regarding the functionality that the Administrator can perform using the user management module, all the major accessibility or functions that the administrator is responsible for are listed below.

- The Welcome Page Tab provides a welcome message to the user as an Administrator.
- Able to view edit their own profile as well as search, edit, view, delete and archive other users within the system using the Users tab.
- Able to assign each user to a specific department while editing the user profile using the Users tab.
- Responsible for approval or denial of elevated access requests requested by the user within the Access Request tab.
-

2   Elevated Access User

As for an Elevated Access User, the user is limited to certain accessibility, as the only tabs that they can access are,

- Welcome Page tab,
- My Profile Tab,
- Users Tab

Since they are limited to certain functionalities, the major things that they are able to do are detailed below.

- The Welcome Page Tab provides a welcome message to the user as an Elevated Access User.
- Able to access their profile through My profile tab and edit their own profile.
- Can search and view profile for other users but only can edit the profile/information of Regular access user. However, they are not allowed to change the access type of a Regular access user as it can only be done the Administrator.

2.   Regular Access User

The Regular Access User are like the basic users of the system such as a newly signed up user. Any user that logs into the system is a Regular Access user by default. They are limited to only two tabs within the system that are,

- Welcome Page Tab,
- My Profile Tab

The only functionalities a regular access user can perform within the system are,

- The Welcome Page Tab provides a welcome message to the user as a Regular Access User.
- Able to view and edit their profile/information within the My profile tab.
- Can request for elevated access user from the Admin within the Profile tab.
- BUT, not allowed to change their Access type and their department as they are assigned after the Administrator's Approvals.

Moreover, the User Management Module for the Researcher Management Portfolio basically provides a detailed list of users and enhanced management of the users that are registered within the system. Along with that, the module provides appropriate functionality and accessibility to specific category of users as described above.

A detailed pictorial representation of the product regarding the data flow and the categories of users is provided below.
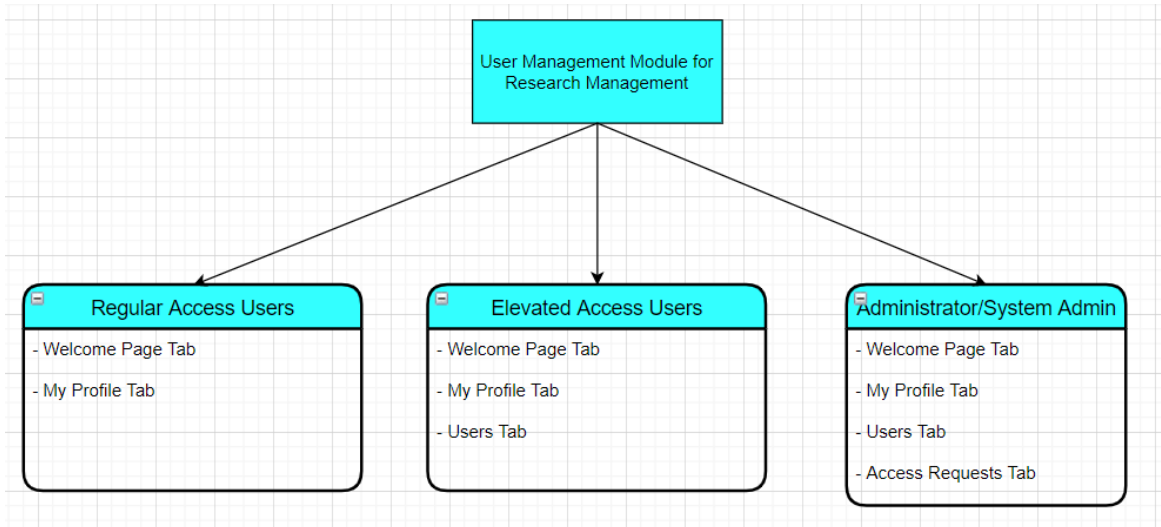
Figure 2: Representing Different categories of users and their accessibility within system.
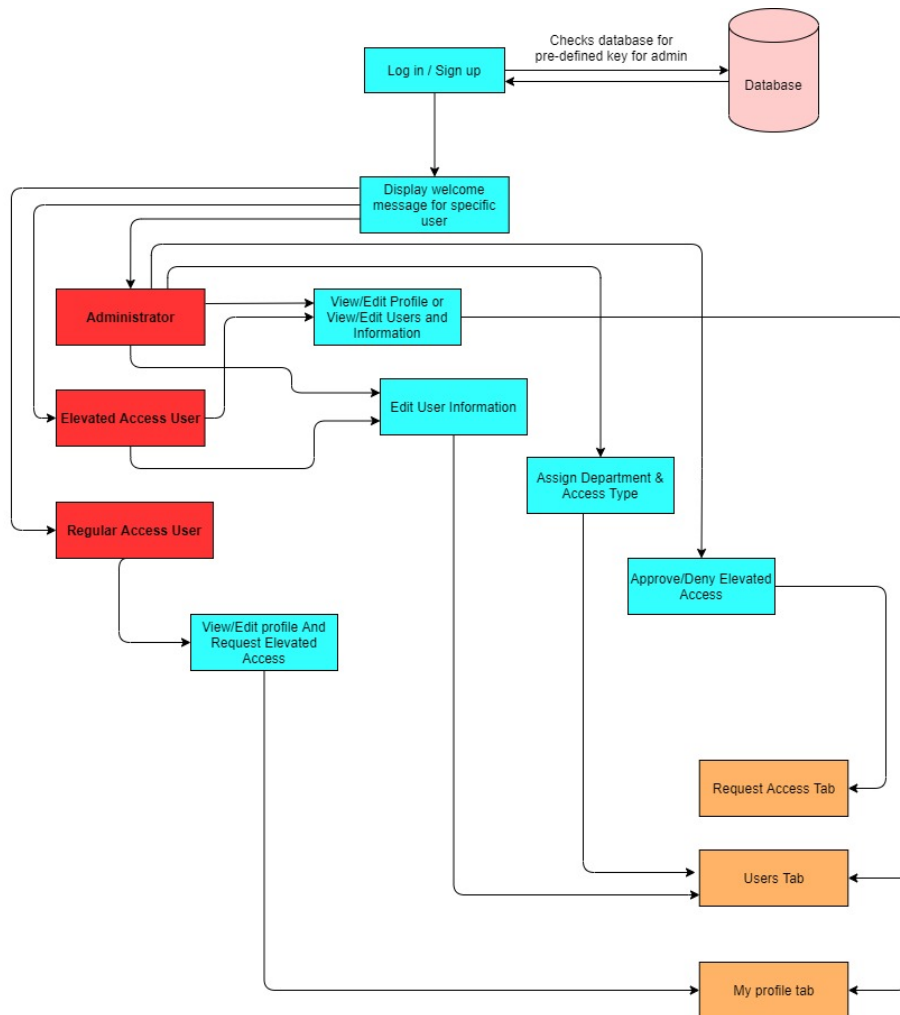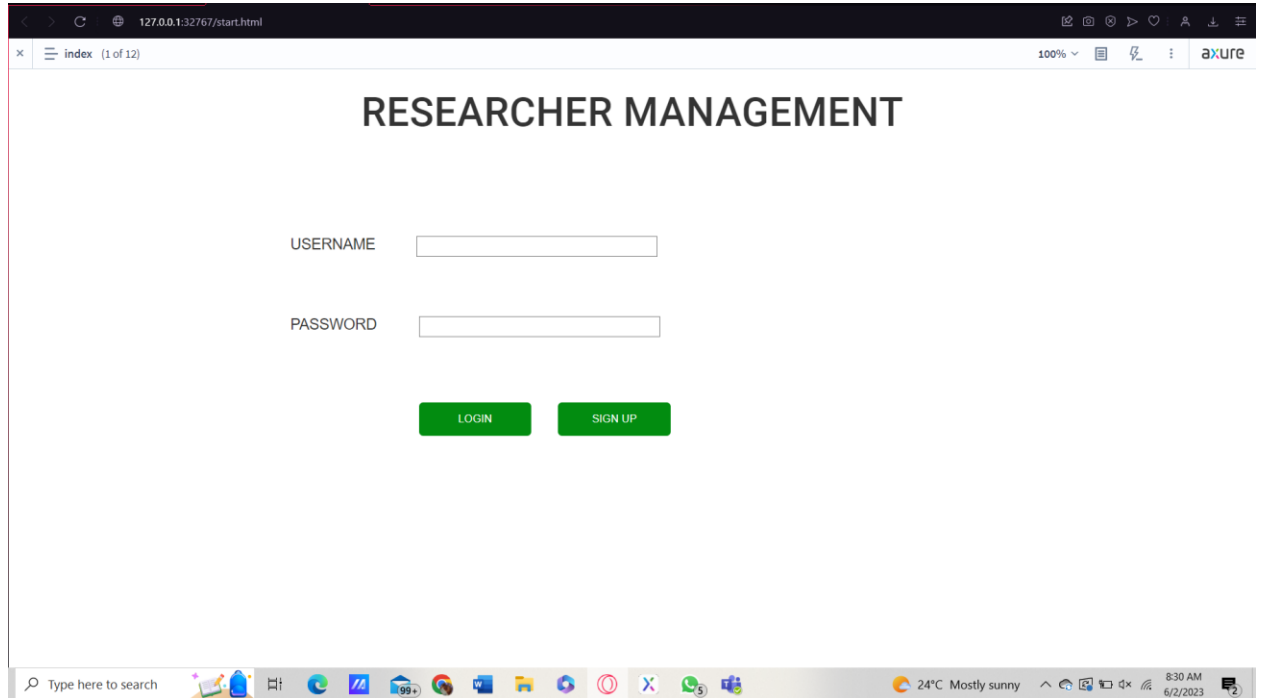
Figure 3: Representing Basic Data Flow Diagram and functionalities of Specific Users

3.0 External User Interface

3.1 User Interfaces

- **LOG IN Page**

This is the Log in Page of the User management module. The users are basically supposed to enter their username and password credentials in order to log into the system. All the users are Regular users by default when they log in.

- ## **SIGN UP Page**

This is the Sign-up page for the regular users to add their details and credentials to the database. It also requires a captcha code approval from the user to sign up.

- **Welcome Page for Administrator/System Admin**
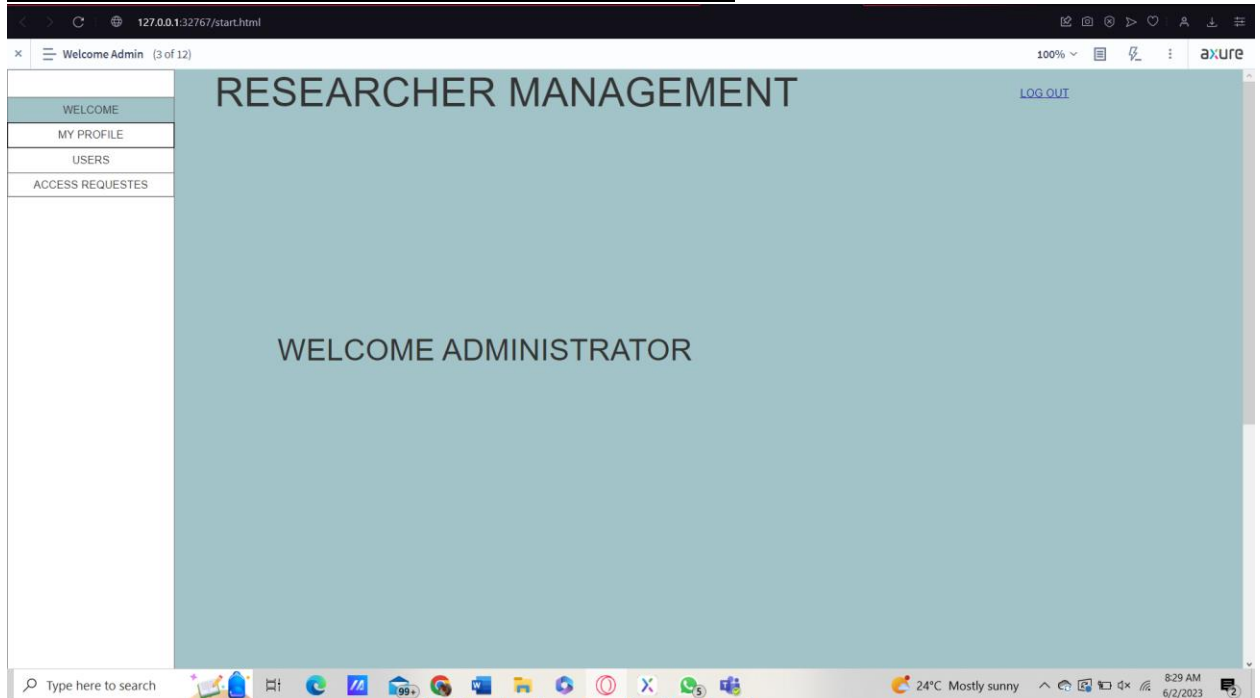
This page of the user management system represents the Welcome Page for Administrator.

- **Welcome Page for Elevated Access User**
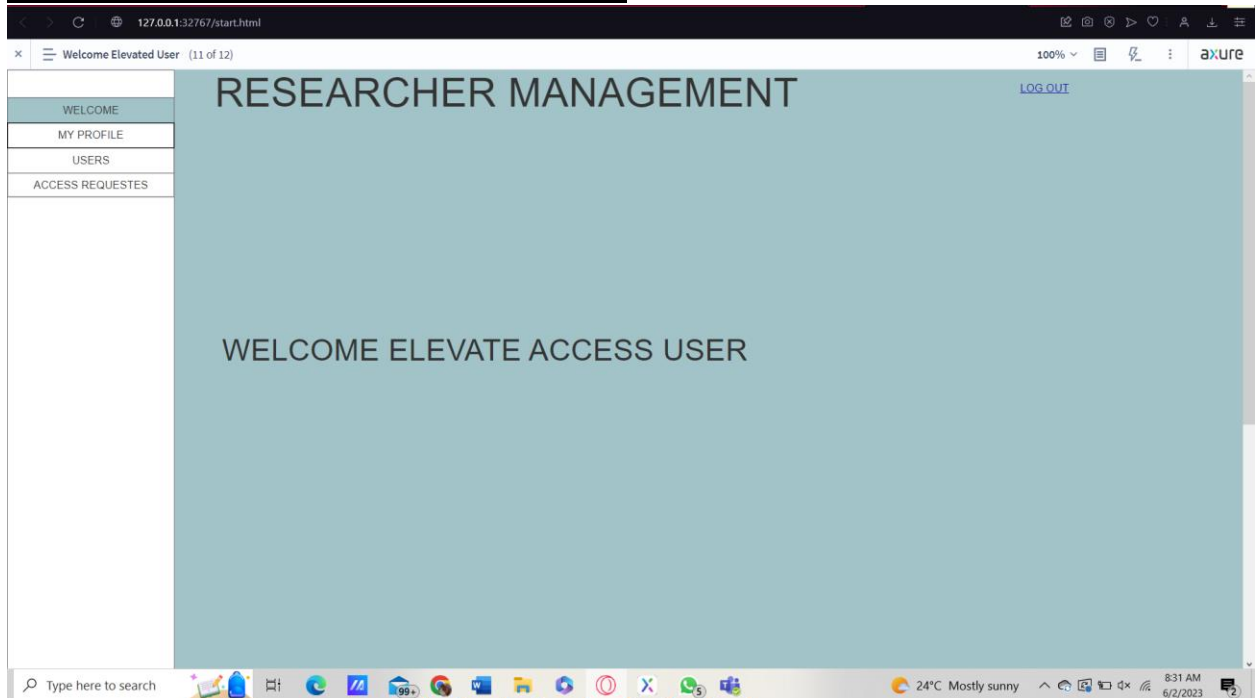
This Page Displays the Welcome message for the Elevated access use

- **Welcome Page for Regular Access User**
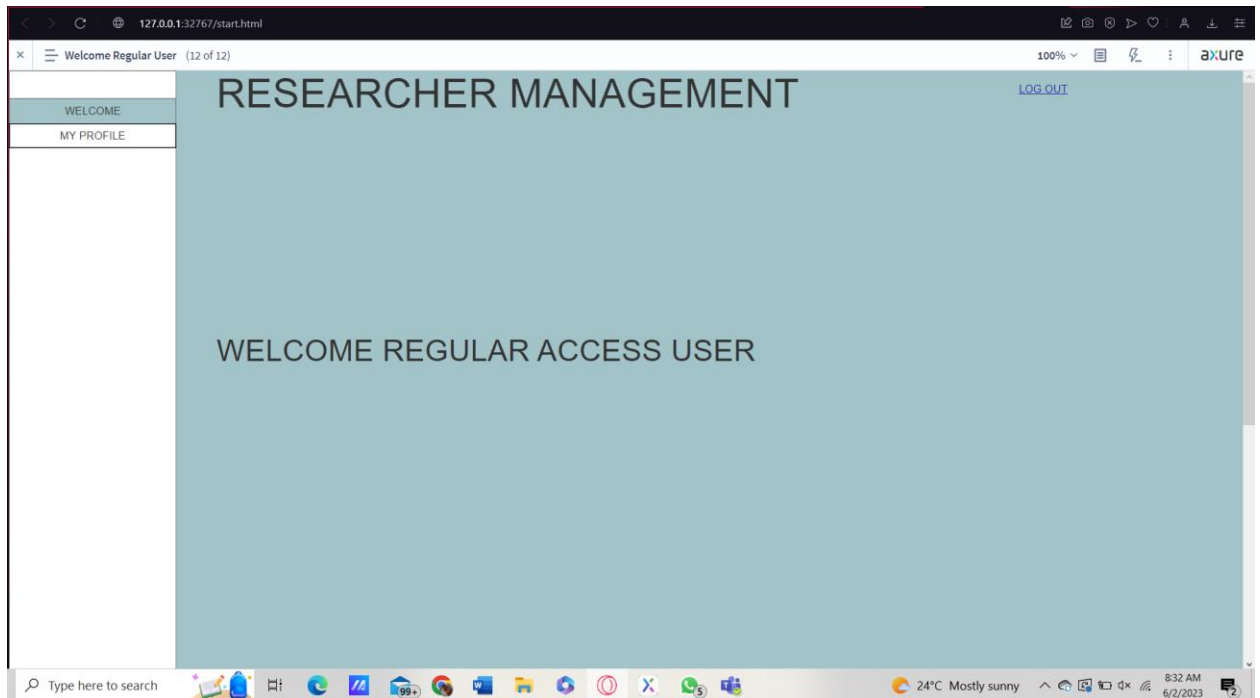
This page displays the Welcome message for the Regular Access user.

- **Add User Page**

This page allows the admin to add a new user within the system storing the data into the database.

- **Edit User Page**

This Page allows both the admin and the elevated access user to edit the user details and make changes for the required data. However, the elevated access user is not allowed to change the access type and the department for the Regular user and is not allowed to make changes over the admin details.

- **Request for elevated Access Page for Regular User**

This page allows the regular user to request for elevated access user permission from the admin.

- **Elevated Request Approval Information Page**

This page displays the Request status for regular user who had requested for Elevated access user.

- **Users Page to View users for Elevated User**

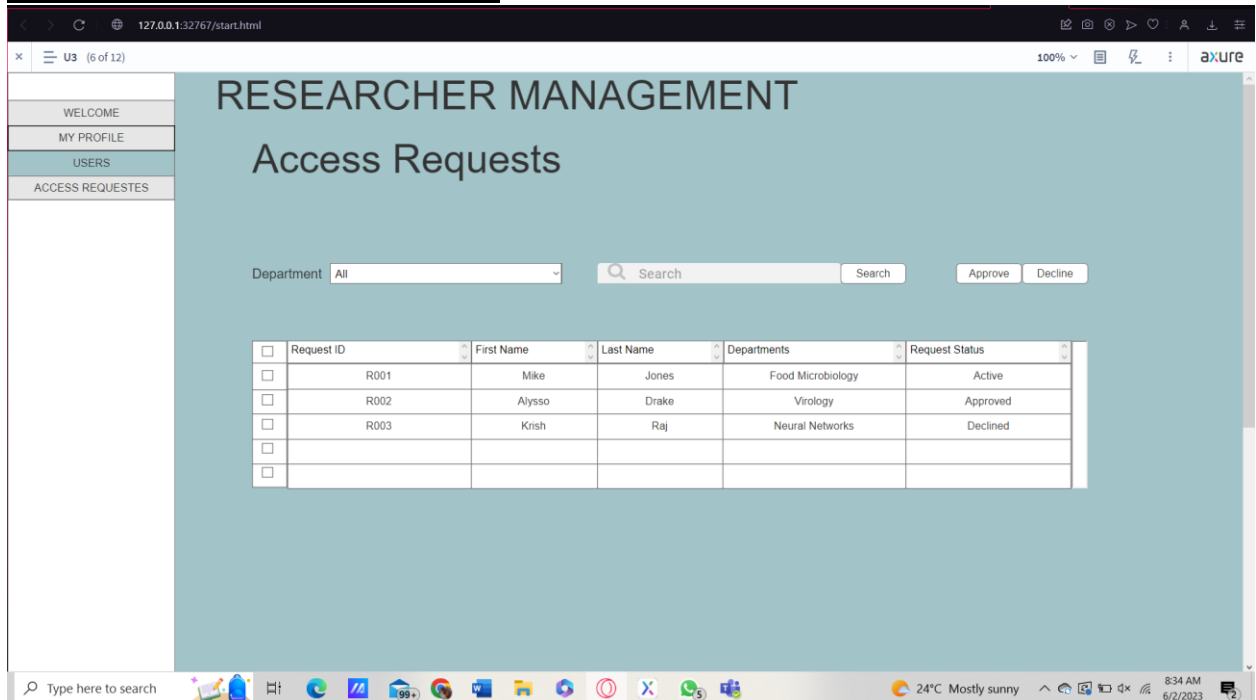This page of the user management system allows the elevated user to view the List of users. They are also able to edit the information regarding the users. However, they are not allowed to change the access type and departments along with the information of the admin.

- **Users Page for Admin**

RESEARCHER MANAGEMENT

LOGOUT

USERS

WELCOME
MY PROFILE
USERS
ACCESS REQUESTES

CREATE   VIEW   EDIT   DELETE

Department All   Search   Search

	User ID	First Name	Last Name	Access Type	Departments
☐	U001	Mike	Jones	Researcher	Food Microbiology
☐	U002	Alysso	Drake	Department Head	Virology
☐	U003	Krish	Raj	Administrator	Technology
☐					
☐					
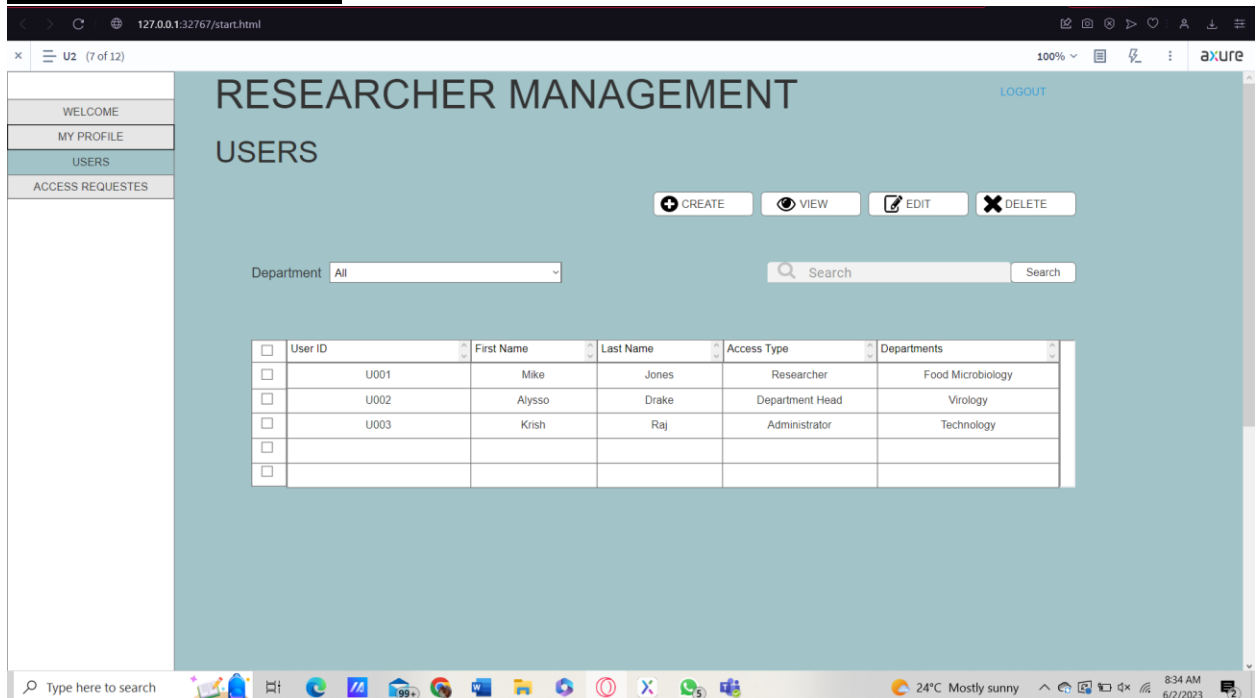
This page allows the admin to view all the users within the system and can make necessary changes regarding the information of the users like create, edit or delete.

- **Access Request Page for Admin**

RESEARCHER MANAGEMENT

Access Requests

WELCOME
MY PROFILE
USERS
ACCESS REQUESTES

Department All   Search   Search   Approve   Decline

	Request ID	First Name	Last Name	Departments	Request Status
☐	R001	Mike	Jones	Food Microbiology	Active
☐	R002	Alysso	Drake	Virology	Approved
☐	R003	Krish	Raj	Neural Networks	Declined
☐					
☐					

This page allows the admin to grant approval or denial for the Elevated access users request that has been requested by a Regular User.