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| **Functional Requirement** | **Test ID** | **Test Steps** | **Preconditions** | **Expected Result** | **Actual Result** |
| User should be able to launch a menu system console | TC\_Menu\_01 | 1. Launch the main.py. 2. Check the displayed output. | None | Menu system is displayed with all options. |  |
|  | TC\_Menu\_POS\_01 | 1. Launch the menu. 2. Enter a valid option (e.g., 1). 3. Verify navigation occurs. | Menu system is loaded | Menu navigates to the selected option. |  |
|  | TC\_Menu\_NEG\_01 | 1. Launch the menu. 2. Enter an invalid option (e.g., 99). | Menu system is loaded | Error message: "Invalid option. Try again." |  |
|  | TC\_Menu\_NEG\_02 | 1. Launch the menu. 2. Enter special characters (e.g., @#$). | Menu system is loaded | Error message: "Invalid option. Try again." |  |
|  | TC\_Menu\_NEG\_03 | 1. Launch the menu. 2. Press Enter without input. | Menu system is loaded | Error message: "Invalid option. Try again." |  |
| As a user I should to able to login | TC\_LOGIN\_POS\_01 | 1. Enter valid username. 2. Enter the correct password. 3. Press Enter. | User account exists with correct username and password | If user exist ask for 2 factor authentication with email and security question |  |
|  | TC\_LOGIN\_NEG\_01 | 1. Open the console. 2. Enter valid username. 3. Enter an incorrect password 4. Press Enter. | User account exists | Error message: "Username or password is Incorrect."  "Press Enter to try again or type ‘exit’ to quit." |  |
|  | TC\_LOGIN\_NEG\_02 | 1. Open the console. 2. Enter a non-existent username. 3. Enter any password. 4. Press Enter. | None | Error message: "Username or password is Incorrect."  "Press Enter to try again or type ‘exit’ to quit." |  |
|  | TC\_LOGIN\_NEG\_03 | 1. Open the console. 2. Leave the username field empty. 3. Enter any password. 4. Press Enter. | None | Error message: "Username or password is Incorrect."  "Press Enter to try again or type ‘exit’ to quit." |  |
| The system shall provide the option for two factor authentication during login | TC\_2FA\_POS\_01 | 1. Enter valid username. 2. Enter valid password. 3. Press Enter. 4. Confirm email (e.g., enter correct email). 5. Answer security question correctly. 6. Press Enter. | User account exists, and email and security question are set up | System grants access to the user and displays the user menu. |  |
|  | TC\_2FA\_NEG\_01 | |  | | --- | |  |  |  | | --- | | 1. Enter valid username. 2. Enter valid password. 3. Enter an incorrect email during confirmation. 4. Press Enter. | | User account exists, and email is set up | System displays an error: "The email address entered does not match our records." |  |
|  | TC\_2FA\_NEG\_02 | 1. Enter valid username. 2. Enter valid password. 3. Enter correct email during confirmation 4. Enter incorrect answer to the security question. 5. Press Enter. | User account exists, and security question is set up | System displays an error: "The answer to the security question is incorrect." |  |
|  | TC\_2FA\_NEG\_03 | 1. Enter valid username. 2. Enter valid password. 3. Leave the email field blank and press Enter. | User account exists, and email is set up | System displays an error: "The email address entered does not match our records." |  |
| System shall enable user management tool for accounts, and permissions | TC\_UM\_POS\_01 | 1. Log in as an admin. 2. Navigate to user management screen. 3. Search for an existing user by username or email. 4. Click on the user to view details. | Admin is logged in, user exists | User details are displayed correctly, including username, email, role |  |
|  | TC\_UM\_POS\_02 | 1. Log in as an admin. 2. Navigate to user management screen. 3. Find a user to update. 4. Select the user and change their role. 5. Press enter to save | Admin is logged in, user exists | User's role is updated successfully, and the changes are reflected in the system. |  |
|  | TC\_UM\_NEG\_01 | 1. Log in as an admin. 2. Navigate to user management screen. 3. Search for a non-existing user. 4. Attempt to update the user's role. | Admin is logged in | System displays an error: "User with Userid # not found" |  |
|  | TC\_UM\_NEG\_02 | 1. Log in as an admin. 2. Navigate to user management screen. 3. Find an existing user. 4. Assign an invalid role (e.g., a role that does not exist). | Admin is logged in, user exists | System displays an error: "Invalid role type. Role type must be ‘7’ for Admin or ‘8’ for User". |  |
|  | TC\_UM\_NEG\_03 | 1. Log in as an admin. 2. Navigate to user management screen. 3. Find the admin account. 4. Attempt to delete the account | Admin is logged in, there are other admins | System displays an error: "Admin users cannot delete their own account." |  |
| System shall allow users to consent to data collection and processing | TC\_CD\_POS\_01 | 1. The system displays the current consent preference. 2. The user is asked if they would like to change their consent. 3. User types "yes" to consent. 4. The system updates the consent to "yes" (1). 5. A success message is displayed confirming the consent update. | User is logged in and has an existing consent preference in the system. | 1. User sees their current consent preference.  2. User successfully changes consent by typing "yes".  3. The consent is updated to "1" in the system.  4. A success message is shown confirming the consent update.  5. The system sends a notification to the user about the consent change |  |
|  | TC\_CD\_NEG\_01 | 1. The system displays the current consent preference. 2. The user is asked if they would like to change their consent. 3. User enters 1 as input 4. The system displays an error message prompting the user to enter either "yes" or "no".   User re-enters valid input ("yes" or "no") to update consent. | User is logged in and has an existing consent preference in the system. | The system detects that the input is 1 and prompts the user again to enter "yes" or "no".  2. User is unable to proceed until valid input is provided.  3. Once valid input is entered, the consent preference is updated accordingly. |  |
|  | TC\_CD\_NEG\_02 | 1. The system displays the current consent preference. 2. The user is asked if they would like to change their consent. 3. User enters ‘Accept’. 4. The system displays an error message prompting the user to enter either "yes" or "no".   User re-enters valid input ("yes" or "no") to update consent. | User is logged in and has an existing consent preference in the system. | The system detects that the input is ‘Accept’ and prompts the user again to enter "yes" or "no".  2. User is unable to proceed until valid input is provided.  3. Once valid input is entered, the consent preference is updated accordingly. |  |
|  | TC\_CD\_NEG\_03 | 1. The system displays the current consent preference. 2. The user is asked if they would like to change their consent. 3. User enters an empty string (no input). 4. The system displays an error message prompting the user to enter either "yes" or "no". 5. User re-enters valid input ("yes" or "no") to update consent. | User is logged in and has an existing consent preference in the system. | 1. The system detects that the input is empty and prompts the user again to enter "yes" or "no".  2. User is unable to proceed until valid input is provided.  3. Once valid input is entered, the consent preference is updated accordingly. |  |
| As a User I should be able to participate in surveys for system improvement | TC\_SV\_POS\_01 | 1. User navigates to the survey section of the application. 2. User views available surveys. 3. User selects a survey to participate in. 4. User answers all the questions in the survey. 5. User submits the completed survey. | User is logged into the system and the system has an available survey. | 1. User is shown a list of available surveys.  2. User answers all survey questions.  3. Survey responses are saved in the database.  4. User receives a confirmation message: "Your survey has been submitted successfully." |  |
|  | TC\_SV\_NEG\_01 | 1. Navigate to the survey section. 2. Do not answer any survey questions. 3. Try to submit the survey. | User is logged in and has a valid user ID | A validation message is displayed saying that answers are required, and the survey cannot be submitted without responses. |  |
|  | TC\_SV\_NEG\_02 | 1. Navigate to the survey section. 2. For the question asking a numeric response (e.g., satisfaction rating), input a non-numeric value. 3. Submit the response | User is logged in and has a valid user ID | A validation error is displayed indicating that the input should be numeric for the specific question. |  |
|  | TC\_SV\_NEG\_03 | 1. Navigate to the survey section. 2. For the question asking a numeric response (e.g., satisfaction rating), input a out of range value 3. Try to submit the survey. | User is logged in and has a valid user ID | The system rejects the out-of-range value with a message: "Invalid input. Please enter a number between 1 and 5 for your satisfaction rating."  Once a valid response is entered, the system accepts the input and proceeds to the next question. |  |
| System shall implement notifications for system updates and maintenance windows | TC\_NF\_POS\_01 | 1. Select option to send notifications. 2. Enter all as the target. 3. Provide a valid message. 4. Confirm sending the notification. | Admin is logged in. | Notification is successfully sent to all users. |  |
|  | TC\_NF\_NEG\_01 | 1. Select option to send notifications. 2. Leave the target field empty. 3. Press Enter | Admin is logged in. | Error message: "Notification target cannot be empty. Please try again." |  |
|  | TC\_NF\_NEG\_02 | 1. Select option to send notifications. 2. Enter an invalid target with special characters (e.g., user@123). 3. Provide a valid message. | Admin is logged in. | Error message: "Invalid username format. Only alphanumeric characters are allowed." |  |
|  | TC\_NF\_NEG\_03 | 1. Select option to send notifications. 2. Enter a valid target. 3. Enter a message longer than 500 characters. 4. Confirm sending. | Admin is logged in. | Error message: "Message exceeds the maximum allowed length of 500 characters." |  |
| As a user I should be able to export my data | TC\_EX\_POS\_01 | 1. Login to the system. 2. Navigate to "Export My Data" section. 3. Select export format (e.g., CSV, PDF). 4. Press enter to "Export". | User is logged in and has data to export | Data is exported successfully in the selected format and the user is notified with a success message. |  |
|  | TC\_EX\_NEG\_01 | 1. Login to the system. 2. Navigate to "Export My Data" section. 3. Select number which is not in menu option. | User is logged in and has data to export | Error message displayed: " Invalid choice. Please try again." |  |
|  | TC\_EX\_NEG\_02 | 1. Login to the system. 2. Navigate to "Export My Data" section. 3. Type an unsupported format | User is logged in and has data to export | Error message displayed: " Invalid choice. Please try again." |  |