

Project Completion Report(PCR) for Complaint Management System(CMS)

1. Introduction

1.1 Purpose:

Complaint Management System (CMS) is intended to enable easy accessibility to a shared platform for the users to raise complaints and also effectively monitor and track the lodged complaints thereby prompting necessary action by the management.

This document is meant to delineate the features of CMS, so as to serve as a guide to the developers on one hand and a software validation document for the prospective client on the other.

1.2 Definitions and Abbreviations:

Definitions :

- Complaint: An issue raised by the user pertaining to the departments listed on the platform.
- Status: This tells about the response from Admin and whether or not the user approved the response from admin.

Acronyms:

- CMS - Complaint Management System

1.3 Overview:

The project completion report of CMS is organized as follows: Section 2 mentions the requirements that are implemented. Section 3 mentions the requirements that are not implemented. Section 4 explains the workflow of a few important use-cases with screenshots. Section 5 explains the software testing done.

2. Requirements implemented:

| Use cases for Complainant | | |
|--|---------------------|---|
| Class of Use cases | Use cases | Description of use cases |
| Use cases related to authorization | Login | Login to CMS with user-id and password |
| | Sign-up | Create an account |
| Use cases related to Account Settings | Profile Info | Enter/Update personal information |
| | Change Password | Enables password change |
| Use cases related to Lodging Complaint | Lodging a complaint | Write a category-based complaint |
| Use cases related to the complaint history | Complaints history | List of complaints lodged by the user with the status of complaints |
| Use cases related to feedback | User Feedback | The user gives feedback, once the admin resolves a complaint. |
| Use case related to sign-out | Signout | End session of the user |

| Use cases for Admin | | |
|--|-----------------------|--|
| Class of Use cases | Use cases | Description of use cases |
| Use cases related to authorization | Login | Login to CMS with email-id and password |
| Use cases related to Account Settings | Profile Info | Enter/Update personal information |
| | Change Password | Enables password change |
| Use cases related to Resolving Complaint | Resolving a complaint | Resolve for complaints received |
| Use cases related to the complaint history | Complaints history | List of complaints received by the admin with the status of complaints |

| | | |
|------------------------------|---------|--------------------------|
| Use case related to sign-out | Signout | End session of the admin |
|------------------------------|---------|--------------------------|

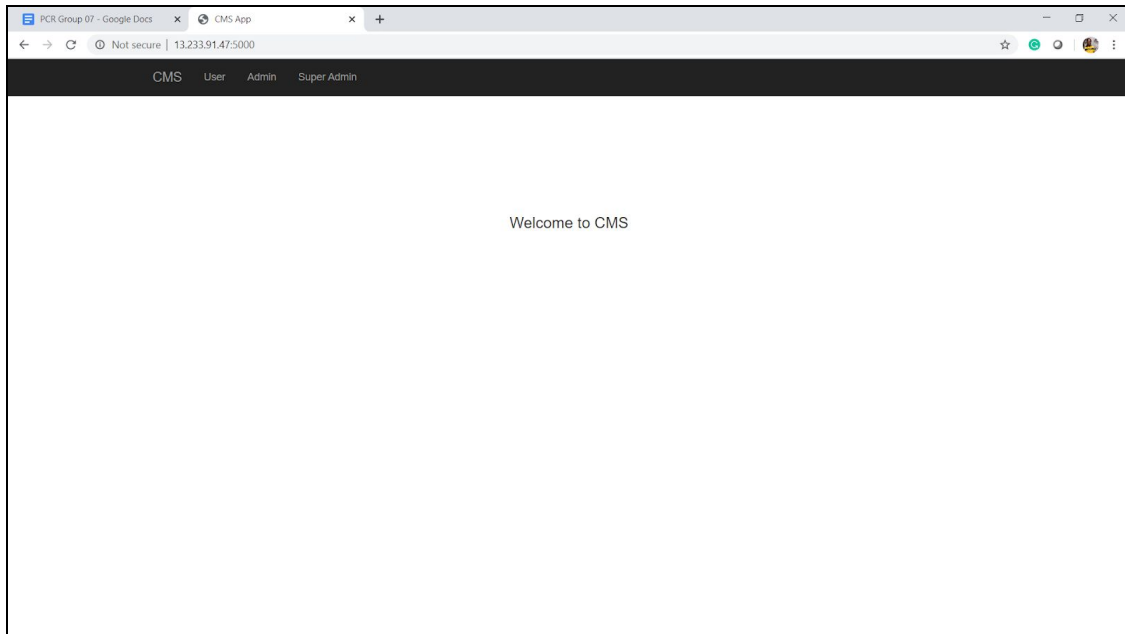
| Use cases for Super- admin | | |
|---|-------------------|---|
| Class of Use cases | Use cases | Description of use cases |
| Use cases related to authorization | Login | Login to CMS with email-id and password |
| Use cases related to Account Settings | Profile Info | Enter/Update personal information |
| | Change Password | Enables password change |
| Use cases related to changing admins | Add Admin | Enables super admin to add admins |
| | Remove Admin | Enables super admin to remove admins |
| Use cases related to changing departments | Add Department | Enables super admin to add department. |
| | Remove Department | Enables super admin to remove department. |
| Use cases related to changing divisions | Add division | Enables super admin to add division. |
| | Remove division | Enables super admin to remove division. |
| Use cases related to viewing all details of admins, departments, and divisions. | View admins | Enables super admin to view departments, divisions and their respective admins. |
| Use case related to sign-out | Signout | End session of the super admin |

3. Requirements not implemented:

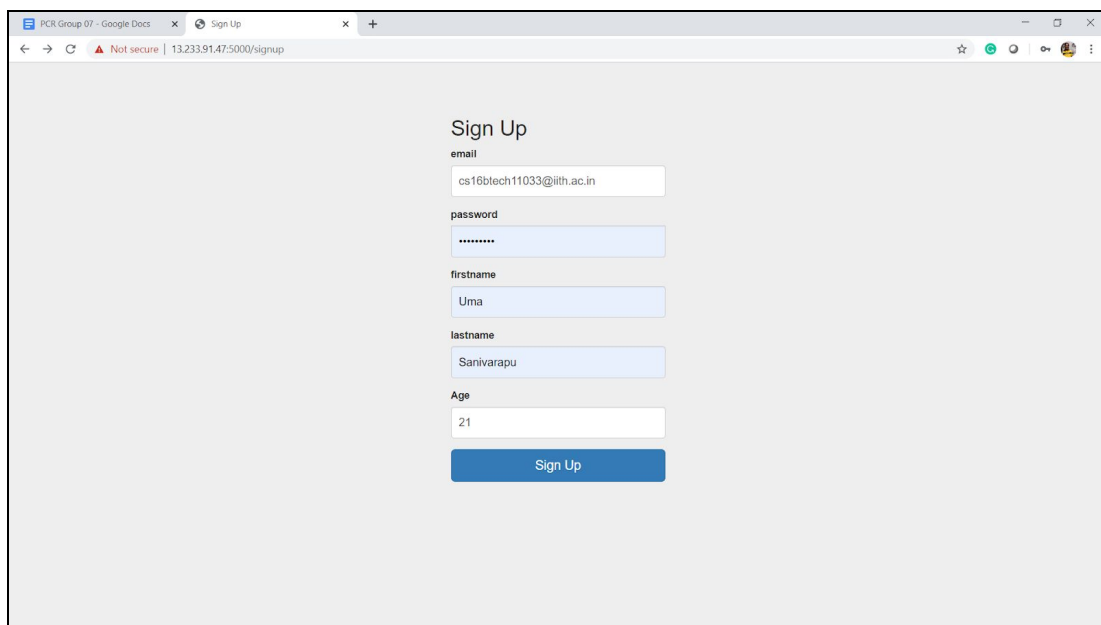
- Forgot Password
- Announcements

4. Screenshots of few use cases:

Home page - User, Admin, Super Admin :



Sign Up page - User:



A screenshot of a web browser displaying the Sign Up page. The browser's address bar shows the URL "13.233.91.47:5000/signup". The page has a light gray background. The "Sign Up" form is centered and includes the following fields and a button:

- email**:
- password**:
- firstname**:
- lastname**:
- Age**:
- Sign Up**:

Login page - User, Admin, Super Admin:

The screenshot shows a web browser window with the URL `13.233.91.47:5000/adminlogin`. The page has a red header bar with the text "Incorrect Password". Below this, the heading "Admin" is displayed. The login form includes a "username" field with the value `cs16blech11033@iith.ac.in`, a "password" field, a "remember me" checkbox, and a blue "Sign in" button.

Lodge Complaint - User:

The screenshot shows a web browser window with the URL `13.233.91.47:5000/userlodgecomplaint3/a/`. The page has a dark header bar with "Back" on the left and "Logout" on the right. The main content area displays the following information:

- Department : a
- Division : ad
- Subject of Complaint: This is subject of complaint.
- Complaint: This is the body of the complaint.

A "Submit" button is located at the bottom of the form.

Complaint History - User, Admin :

Back

Logout

COMPLAINT HISTORY

Un-resolved complaints

| Subject | Complaint Id | Department | Division |
|-------------------------------|--------------|------------|----------|
| This is subject of complaint. | 23 | a | ad |

Admin Responded complaints

| Subject | Complaint Id | Department | Division |
|----------------------------|--------------|------------|----------|
| This is another complaint. | 24 | b | bc |

Un-satisfied Complaints

| Subject | Complaint Id | Department | Division |
|---------|--------------|------------|----------|
|---------|--------------|------------|----------|

Satisfied Complaints

| Subject | Complaint Id | Department | Division |
|------------------------------|--------------|------------|----------|
| this is complaint | 8 | b | bc |
| this is check for line break | 17 | a | ad |

Admin Resolve Complaint page - Admin:

Back

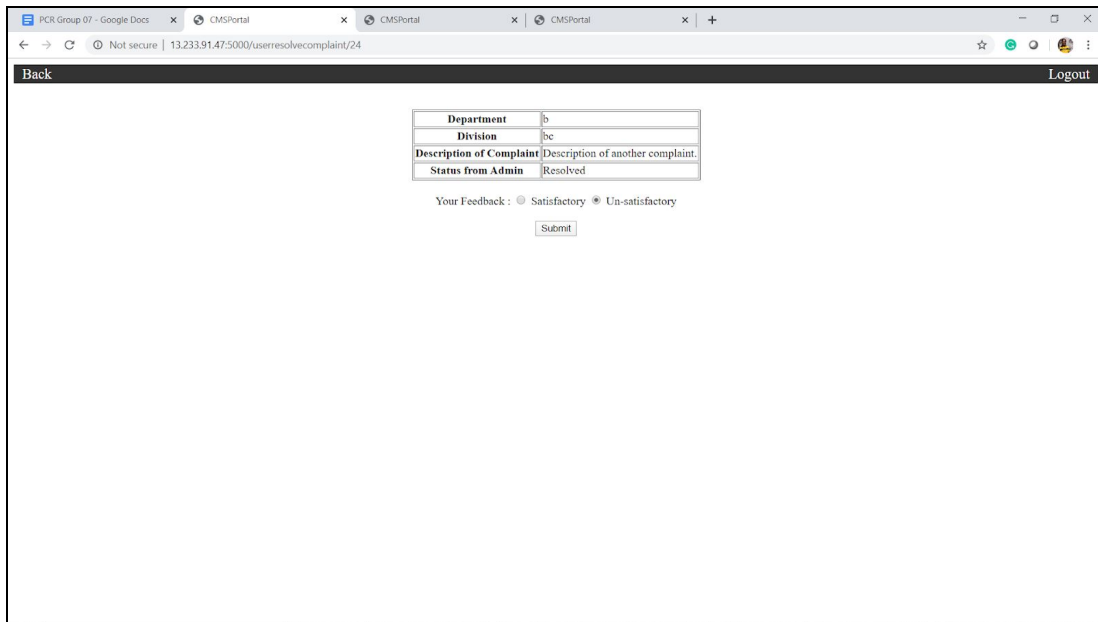
Logout

| | |
|--------------------------|-----------------------------------|
| Department | b |
| Division | bc |
| Description of Complaint | Description of another complaint. |

Is the Complaint Resolved? ☒ Yes

Submit

User Feedback page- User:

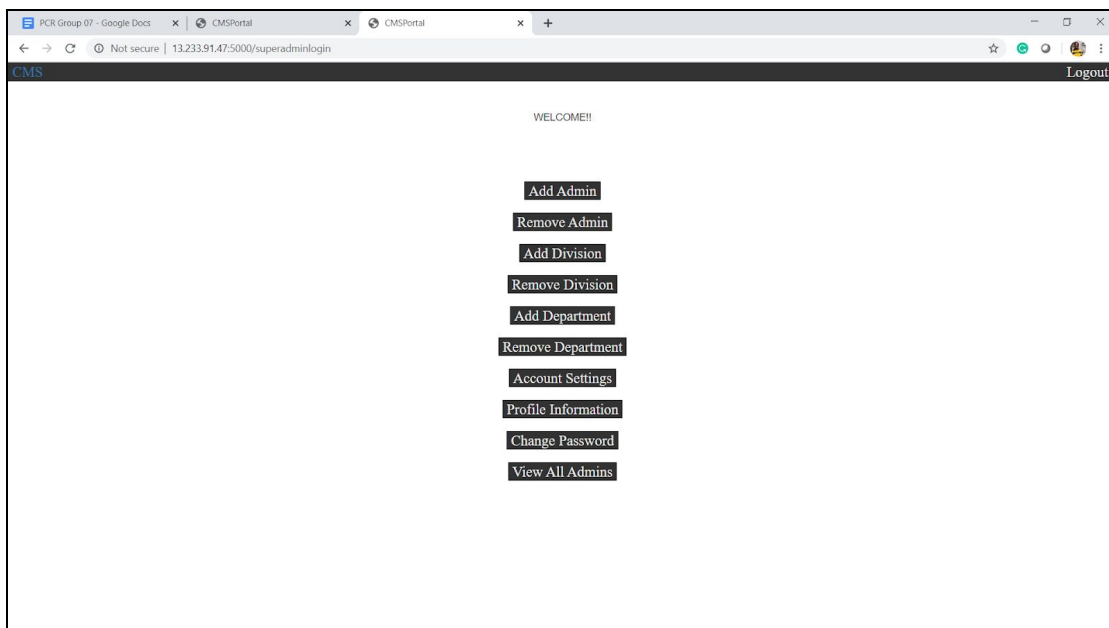


The screenshot shows a web browser window with the URL `13.233.91.47:5000/userresolvecomplaint/24`. The page has a dark header with a "Back" button on the left and a "Logout" button on the right. The main content area contains a table with the following data:

| | |
|--------------------------|-----------------------------------|
| Department | b |
| Division | bc |
| Description of Complaint | Description of another complaint. |
| Status from Admin | Resolved |

Below the table, there is a feedback section with the text "Your Feedback :". It includes two radio buttons: "Satisfactory" (which is selected) and "Un-satisfactory". A "Submit" button is located below the radio buttons.

After super admin logged in page - Super Admin:



The screenshot shows a web browser window with the URL `13.233.91.47:5000/superadminlogin`. The page has a dark header with the text "CMS" on the left and a "Logout" button on the right. The main content area displays "WELCOME!!" at the top. Below this, there is a vertical list of ten buttons: "Add Admin", "Remove Admin", "Add Division", "Remove Division", "Add Department", "Remove Department", "Account Settings", "Profile Information", "Change Password", and "View All Admins".

View all admins page - Super Admin:

category -admin table

| DEPARTMANT | DIVISION | Admin |
|------------|----------|---------------------------|
| b | bc | cs16btech11033@iith.ac.in |
| a | ad | cs16btech11016@iith.ac.in |
| a | af | cs16btech11016@iith.ac.in |
| a | ab | cs16btech11021@iith.ac.in |
| a | ag | cs16btech11021@iith.ac.in |
| a | ab | None |
| c | fm | None |

category table

| DEPARTMANT |
|------------|
| a |
| b |
| c |

Remove Admin page - Super Admin:

Remove Admin

adminemail
cs16btech11033@iith.ac.in

Department
a

Division
ac

Done

5. Software Testing:

Manual testing was the mode of testing followed while testing for the following scenarios.

Scenario 1: Test scenarios related to signup for user:

Assumptions: The user enters a valid email id.

Relevant details: The sign-up form consists of the fields email, password, first name, last name, and age.

- Positive case

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---------------------|-------------------------------|---|---|-----------|
| 1. | Submit Sign-up form | Valid details for all fields. | The user should receive an email verification link. | User receives an email verification link. | Pass |

- Negative case

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---------------------|--|---|--|-----------|
| 2. | Submit Sign-up form | Invalid details for some fields violating the minimum and maximum length constraint. | The error messages should be displayed for the corresponding fields. | The error messages are displayed for the corresponding fields. | Pass |
| 3. | Submit Sign-up form | Filling the email-id of an already existing account. | An error message should be displayed and be asked to log in with the existing id. | An error message is displayed and is redirected to the login page. | Pass |

Scenario 2: Test cases related to logging in for the user, admin, and super admin:

Relevant details: The login form consists of the fields email-id and password.

- Positive case

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|-------------------|--|--|---------------------------------------|-----------|
| 4 | Submit Login form | Valid details for all fields after email verification. | The user should be logged in to the website. | The user is logged in to the website. | Pass |

- Negative cases

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|-------------------|--|---------------------------------------|---|-----------|
| 5. | Submit Login form | Enter valid details before email verification. | An error message should be displayed. | An error message is displayed saying no such user exists. | Pass |
| 6 | Submit Login | Enter the email id of a | An error message should | An error message is | Pass |

| | | | | | |
|---|-------------------|--|--|---|------|
| | form | non-existing account. | be displayed for invalid email id. | displayed for invalid email id. | |
| 7 | Submit Login form | Enter incorrect password and a valid email id. | An error message should be displayed for incorrect password. | An error message is displayed for incorrect password. | Pass |

Scenario 3: Test case related to change the password for user, admin, and super admin:

Relevant details: Change password form contains the fields new password and confirm new password.

- Positive case

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|-----------------------------|-------------------------------|--|---|-----------|
| 8 | Submit Change Password form | Valid details for all fields. | The password must be successfully updated in the database. | The password is successfully updated in the database. | Pass |

- Negative cases

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|-----------------------------|--|--|---|-----------|
| 9 | Submit Change Password form | Invalid details for fields violating the minimum and maximum length constraints. | The error messages should be displayed for the corresponding fields. | The error messages are displayed for the corresponding fields. | Pass |
| 10 | Submit Change Password form | New Password and Confirm new password don't match. | An error message should be displayed that both the fields don't match. | An error message is displayed that both the fields don't match. | Pass |

Scenario 4: Test case related to change personal information for user, admin, and super admin:

Relevant details: Personal information form contains the fields first name, last name, and age.

- Positive case

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|----------------------------------|--|---|---|-----------|
| 11 | Submit personal information form | Valid details for all fields following the minimum and maximum length constraints. | The details must be successfully updated in the database. | The details are successfully updated in the database. | Pass |

- Negative case

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|----------------------------|--|--|--|-----------|
| 12. | Submit personal info form. | Invalid details for fields violating the minimum and maximum length constraints. | The error messages should be displayed for the corresponding fields. | The error messages are displayed for the corresponding fields. | Pass |

Scenario 5: Test cases related to lodging complaint for user:

Relevant details: Lodge complaint form contains the fields Department, division, subject of the complaint and the description.

- Positive case

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---------------------------------|--|---|---|-----------|
| 13 | Submit the lodge complaint form | Valid details for all fields following the minimum and maximum length constraints. | The details must be successfully updated in the database. | The details are successfully updated in the database. | Pass |

- Negative case

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---------------------------------|--|--|--|-----------|
| 14 | Submit the lodge complaint form | Invalid details for fields violating the minimum and maximum length constraints. | The error messages should be displayed for the corresponding fields. | The error messages are displayed for the corresponding fields. | Pass |

Scenario 6: Test cases related to resolving complaint for admin and user:

- Unresolved Complaints

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|--|--|--|---|-----------|
| 15 | Unresolved section of complaint history - User | Unresolved section of complaint history. | Complaints only corresponding to no response from admin should be displayed. | Complaints only corresponding to no response from admin are displayed. | Pass |
| 16 | Unresolved section of complaint history-Admin | Unresolved section of complaint history and admin choose to mark it as resolved. | Update the status of the complaint in the database and reflect it on user and admin pages. | The status of the complaint is updated in the database and reflected on the user and admin pages. | Pass |

- Resolved Complaints

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|--|---|---|---|-----------|
| 17 | Resolved section of complaint history - User | Resolved section of complaint history and user gives feedback (Satisfactory/Unsatisfactory) | Update the status of the complaint in the database and reflect it on user and admin pages. | The status of the complaint is updated in the database and reflected on the user and admin pages. | Pass |
| 18 | Resolved section of complaint history-Admin | Resolved section of complaint history. | Complaints only corresponding to the resolved status from all users to the admin should be displayed. | Complaints only corresponding to resolved status from admin are displayed. | Pass |

- User Satisfied Complaints.

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|--|---|--|--|-----------|
| 19 | User Satisfied section of complaint history - User | User Satisfied section of complaint history - User | Complaints only corresponding to satisfied feedback from the user should be displayed. | Complaints only corresponding to satisfied feedback from the user are displayed. | Pass |
| 20 | User satisfied section of complaint history-Admin | User Satisfied section of complaint history - Admin | Complaints only corresponding to satisfied feedback from users to the admin should be displayed. | Complaints only corresponding to satisfied feedback from users to the admin are displayed. | Pass |

- User Unsatisfied Complaints.

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|--|---|--|--|-----------|
| 21 | User Unsatisfied section of complaint history - User | User Unsatisfied section of complaint history - User | Complaints only corresponding to unsatisfied feedback from the user should be displayed. | Complaints only corresponding to unsatisfied feedback from the user are displayed. | Pass |
| 22 | User Unsatisfied section of complaint history-Admin | User Unsatisfied section of complaint history - Admin | Complaints only corresponding to unsatisfied feedback from users to the admin should be displayed. | Complaints only corresponding to unsatisfied feedback from users to the admin are displayed. | Pass |

Scenario 7: Test cases related to changing departments for super admins:

Relevant details: Add department form consists of the field department.

Remove department form consists of the field department.

- Positive cases

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|--------------------------------|---|----------------------|--------------------------|-----------|
| 23 | Submit Add Department form. | Enter a department name that doesn't already exist. | Update the database. | The database is updated. | Pass |
| 24 | Submit remove department form. | Enter a department name that already exists. | Update the database | Database is updated | Pass |

- Negative cases

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---------------------------------|--|--|---|-----------|
| 25 | Submit the Add Department form. | Enter a department name that already exists. | A warning should be displayed mentioning that the department already exists. | A warning is displayed mentioning that the department already exists. | Pass |
| 26 | Submit remove department form. | Enter a department name that doesn't exist. | A warning should be displayed mentioning that the department doesn't exist. | A warning is displayed mentioning that the department doesn't exist. | Pass |

Scenario 8: Test cases related to changing divisions for super admins:

Relevant details: Add division form consists of the fields department and division.

Remove division form consists of the fields department and division.

- Positive cases

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|-------------------------------|---|----------------------|--------------------------|-----------|
| 27 | Submit the Add Division form. | Enter a department name that exists and a division name that doesn't. | Update the database. | The database is updated. | Pass |
| 28 | Submit Remove Division form. | Enter an existing ordered pair of department and division. | Update the database | Database is updated | Pass |

- Negative cases

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|-------------------------------|---|---|--|-----------|
| 29 | Submit the Add Division form. | Enter an existing ordered pair of department and division. | A warning should be displayed mentioning that the department, division pair already exists. | A warning is displayed mentioning that the department, division pair already exists. | Pass |
| 30 | Submit the Add Division form. | Enter a department name that doesn't exist. | A warning should be displayed mentioning that the department doesn't exist. | A warning is displayed mentioning that the department doesn't exist. | Pass |
| 31 | Submit remove Division form. | Enter a non-existing ordered pair of department and division. | A warning should be displayed mentioning that the department, division pair don't exist. | A warning is displayed mentioning that the department, division pair don't exist. | Pass |

Scenario 9: Test cases related to changing admins for super admins:

Relevant Details : Add admin form consists of the fields admin id, first name, last name, age, passcode, department and division.

Remove division form consists of the fields admin id, department and division.

- Positive Cases:

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|--|--|--|--|-----------|
| 32 | Submit add admin form for assigning division to existing admin | Enter pair of department and division to be assigned to admin id | The admin should be added to given department and division | The admin should be added to given department and division | Pass |
| 33 | Submit form for assigning a new admin when admin for a division already exists | Enter pair of department and division to be assigned to admin id | The admin should be added to given department and division along with pre-existing admin | The admin should be added to given department and division along with pre-existing admin | Pass |
| 34 | Submit form for removing an admin (with other admins existing) | Enter pair of department and division , admin id to be removed | The admin will be removed for given department and division(others exist) | The admin will be removed for given department and division(others exist) | Pass |
| 35 | Submit form for removing an | Enter pair of department and | The admin will be removed and the | The admin will be removed and the | Pass |

| | | | | | |
|----|---|--|---|---|------|
| | admin (no other admins exist) | division , admin id to be removed | department division pair will now have no admin | department division pair will now have no admin | |
| 36 | Submit form for adding non-existing admin to department division pair | Enter pair of department and division to be assigned to admin id along with the passcode for admin | The admin will be added to the current list of admins and be admin for given department-division pair.Also admin will be allowed to login using the passcode given. | The admin will be added to the current list of admins and be admin for given department-division pair.Also admin will be allowed to login using the passcode given. | Pass |

● **Negative Cases:**

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---|--|--|---|-----------|
| 37 | Submit add admin form with mismatched pair of department , division | Enter the details of admin , department and division to be assigned. | The form won't be submitted because entered department division details mismatch. | A warning appears that says entered department and division don't exist and form is not submitted | Pass |
| 38 | Submit remove admin form with mismatched pair of department , division | Enter the details of admin , department and division to be removed. | The form won't be submitted because entered department division details mismatch. | A warning appears that says entered department and division don't exist and form is not submitted | Pass |
| 39 | Submit form for remove admin when there's no admin for that department division pair | Enter the details of admin , department and division to be removed. | The form won't be submitted because the entered department division doesn't have any admin. | A warning appears that says entered department and division don't have admin and form is not submitted | Pass |
| 40 | Submit form for remove admin where the given admin is not an admin for entered department division pair | Enter the details of admin , department and division to be removed. | The form won't be submitted because the entered department division doesn't have that admin. | A warning appears that says entered department and division don't have that admin and form is not submitted | Pass |

Scenario 10: Session validation:

- Logout

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---------|--------------------------------|--------------------------------|------------------|-----------|
| 41 | Log out | Clicking on the logout button. | The session should have ended. | Session is ended | Pass |

- Trying to access pages without sign in.

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---------------------------------------|---|---|--|-----------|
| 42 | Trying to access pages without login. | Enter the URL of pages that appear after login. | An error should be displayed preventing access. | Error is displayed preventing the access and is redirected to login page | Pass |

- Trying to access pages belonging to other levels of hierarchy without sign in.

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|---|---|---|--|-----------|
| 43 | Trying to access admin/ super admin URLs after signing in as a user. | Enter the URL of admin/super admin pages that appear after login. | An error should be displayed preventing access. | An error should be displayed preventing the access and is redirected to login page | Pass |
| 44 | Trying to access user/ super admin URLs after signing in as an admin. | Enter the URL of user/super admin pages that appear after login. | An error should be displayed preventing access. | An error should be displayed preventing the access and is redirected to login page | Pass |
| 45 | Trying to access user/ admin urls after signing in as a superadmin. | Enter the url of user/admin pages that appear after login. | An error should be displayed preventing access. | An Error should be displayed preventing the access and is redirected to login page | Pass |

Scenario 11: Test case related to view all admins for super admin:

| SNo | Action | Input | Expected Result | Actual Result | Pass/Fail |
|-----|-----------------|---|---|--|-----------|
| 46 | View all admins | Clicking on the view all admins button. | Information related to all departments, divisions and admins to be displayed. | Information related to all departments, divisions and admins is displayed. | Pass |

Requirements Traceability Matrix :

| Requirements | Applicable for | Test Cases |
|-----------------------------|--------------------------|-------------------------|
| Login | User, Admin, Super Admin | 4,5,6,7 |
| Signup | User | 1,2,3 |
| Profile Info | User, Admin, Super Admin | 11,12 |
| Change Password | User, Admin, Super Admin | 8,9,10 |
| Lodging a complaint | User | 13,14 |
| Complaints history | User, Admin | 15,16,17,18,19,20,21,22 |
| User Feedback | User | 17 |
| Signout | User, Admin, Super Admin | 41 |
| Resolving a complaint | Admin | 16 |
| Add Admin | Super Admin | 32,33,36,37 |
| Remove Admin | Super Admin | 34,35,38,39,40 |
| Add Department | Super Admin | 23,25 |
| Remove Department | Super Admin | 24,26 |
| Add division | Super Admin | 27,29,30 |
| Remove division | Super Admin | 28,31 |
| View admins and departments | Super Admin | 46 |
| Log out/ Sign out | User, admin, super admin | 41 |

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