



School of Computer Science & Information Technology

CSIT-22-S4-24 - Automatic Project Assignment

Test Plan

Group No.: FYP-22-S4-32

Name	UOW ID	Email
Matthew Chua Yu Jie	7060750	myjc930@uowmail.edu.au
Tan Kwan Quan	7058925	kqt960@uowmail.edu.au
Tyrell Lim Yi Jin	7060579	yjtl910@uowmail.edu.au
Yang YiJie	7222075	yy690@uowmail.edu.au
Yeo Jun Ming	7430905	jmy234@uowmail.edu.au
Zheng Yinli	6959593	yz957@uowmail.edu.au

Supervisor: Mr Tian Sion Hui
Assessor: Dr Loo Poh Kok

Document Control

Title: User Manual

Document Name: APA-UM-01

Owner	Current Version	Last Change on		Approved by
		Date	Time	
Matthew Chua Yu Jie	1.1	10/02/2023	1800	

Distribution List

Name	Title/Role	Where (location where the document is stored)
Matthew Chua Yu Jie	Project Manager, Frontend Programmer, Backend Programmer	Google Drive
Tan Kwan Quan	Backend Lead, Backend Programmer	Google Drive
Tyrell Lim Yi Jin	Backend Programmer, Documenter and Editor, Developer and Tester	Google Drive
Yang Yijie	Backend Programmer, Scrum Master	Google Drive
Yeo Jun Ming	Frontend Programmer, Test Case Lead, Documenter and Editor	Google Drive
Zheng Yinli	Frontend Lead, Frontend Programmer	Google Drive

Record of Revision

Revision Date	Description	Section Affected	Changes Made by	Version after Revision
20/12/2022	Draft of the Test Case	All	Jun Ming, Tyrell	1.0
10/02/2022	Completion of Test Case	All	Everyone	1.1

Table of Content

Document Control	2
Table of Content	3
Introduction	4
1.1 Purpose	4
1.2 Test Environment	4
Test Scope	5
2.1 Features to be Tested	5
2.2 Unit Testing	5
2.3 Integration Tests	5
2.4 User Acceptance Test	6
2.5 Traceability Matrix	6
Test Methodology	7
3.1 Testing Principles	7
3.2 Testing Criteria	7
Test Scenarios	8
4.1 Test Login Functionality	8
4.2 Test Project Admin Features	8
4.3 Test Employee Features	9
4.4 Test Super Admin Features	9
Test Schedule	10
Test Case	11
6.1 Login/Logout Functionality	11
6.2 Project Admin	21
6.3 Employee	41
6.4 Super Admin	52
Unit Test	70
Integration Test	76
User Acceptance Test	78
Traceability Matrix	80
Conclusion	80
References	81

Introduction

1.1 Purpose

This test plan shows the methodologies and quality control used for the entire testing process. This document will cover how the team maintains quality control and conducts different tests (e.g testing functionalities via test cases).

1.2 Test Environment

Given that our project is a web application, for us to facilitate a suitable test environment which will allow us to test new/current features, we will have to consider different operating systems.

Operating System	Device Name	Purpose
Windows OS	Junming/Tyrell's Desktop	To ensure that the system performs up to standard on Windows OS
mac OS	Yinli's Desktop	To ensure that the system performs up to standard on mac OS
Android	Tyrell's Phone	To ensure that the system can be accessed via android System

Test Scope

2.1 Features to be Tested

1. User Interface
 - 1.1 Login Page
 - 1.2 User Landing Pages
2. User Functions
 - 3.1 Super Admin Functions
 - 3.2 Project Admin Functions
 - 3.3 Employee Functions
3. Project Automation
 - 4.1 Project Threshold
 - 4.2 Automation Process

2.2 Unit Testing

Low-level testing method for the team to verify the outcome of different functions in batches independent of other parts of the code.

This test allows us to validate the performance of each component before proceeding to the next component.

2.3 Integration Tests

This test allows us to test individual components of the code when integrated to verify that they work up to expectations. This allows us to tell if there are any faults between the interactions of functions/pages (e.g Employee's Profile which consists of different functions).

2.4 User Acceptance Test

This test is conducted whereby the overall application is tested for acceptability via the team and our supervisor's standard.

2.5 Traceability Matrix

This test is conducted to validate that all requirements are checked via test cases such that no functionality is unchecked during the testing period. This also allows us to understand the client's requirements and make sure that the output product should be defect-free.

Test Methodology

3.1 Testing Principles

Given testing is absolutely essential for our application development, our team will abide by the seven principles of testing and strive to be as unbiased as possible.

- Testing shows the presence of defects, not their absence
- Exhaustive testing is impossible
- Early testing saves time and money
- Defects cluster together
- Beware of the pesticide paradox
- Testing is context dependent
- Absence-of-errors is a fallacy

3.2 Testing Criteria

ID - Test Cases	Criteria
Pass	Majority of the functions should work according to FYP requirements without any major issue/bug.
Fail	In the event of any functions not working as intended, it will be deemed as a failure.

ID - Entry	Criteria
Entry Criteria	There must be existing data within the database and the repository should be synced to ensure the latest updated version of the application.
Exit Criteria	Test Cases must have a passing rate of at least 95%

Test Scenarios

4.1 Test Login Functionality

1. Test Project Admin Login Function
2. Test Project Admin Invalid Login Function
3. Test Project Admin Logout Function
4. Test Employee Login Function
5. Test Employee Invalid Login Function
6. Test Employee Logout Function
7. Test Super Admin Login Function
8. Test Super Admin Invalid Login Function
9. Test Super Admin Logout Function
10. Test Forgot Password Function

4.2 Test Project Admin Features

1. Test for Update Contact Details as Project Admin
2. Test for Project Admin Create Organisation Skill
3. Test for Project Admin Delete Organisation Skill
4. Test for Project Admin Create Project
5. Test for Project Admin Update Project Details
6. Test for Project Admin to remove Project
7. Test for Project Admin Create Employee Account
8. Test for Project Admin Create Existing Employee Account
9. Test for Project Admin Create Account with no matching password
10. Test for Project Admin Delete Employee Account
11. Test for Project Admin Edit Employee Account Contact Info
12. Test for Project Admin Create Assignments
13. Test for Project Admin Add Projects into Assignment
14. Test for Project Admin Remove Projects from Assignment
15. Test for Project Admin Adding Employees into Assignment
16. Test for Project Admin Remove Employees from Assignment
17. Test for Project Admin Process Automatic Assignment
18. Test for Project Admin View Assignment Statistics

4.3 Test Employee Features

1. Test View account information as Employee
2. Test Update account information as Employee
3. Test Add skills and competency details as Employee
4. Test Update skills and competency details as Employee
5. Test View skills and competency details as Employee
6. Test View project listing as Employee
7. Test View project details as Employee
8. Test Input/update project preference as Employee
9. Test View assignment result as Employee
10. Test Change and reset password as Employee
11. Test View Organisation as Employee
12. Test View Project Preferences as Employee
13. Test Invalid Input/Update Project Preference
14. Test Invalid Input of Contact Info

4.4 Test Super Admin Features

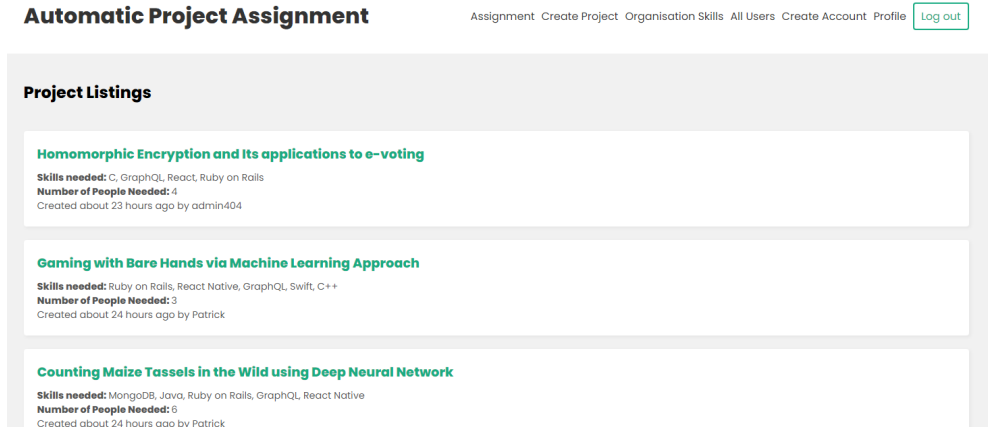
1. Test Create user account as Super Admin
2. Test View user account as Super Admin
3. Test Delete user account as Super Admin
4. Test Create Organisation codes as Super Admin
5. Test Edit user role as Super Admin
6. Test Edit user account contact info as Super Admin
7. Test Manage users in an Organisation as Super Admin
8. Test View User Profile as Super Admin
9. Test View Profile as Super Admin
10. Test Edit Contact Info as Super Admin
11. Test View Organisation Listing as Super Admin
12. Test Delete Organisation Listing as Super Admin
13. Test View Organisation Details as Super Admin
14. Test Filter User Accounts by Project Admin as Super Admin
15. Test Filter User Accounts by Super Admin as Super Admin
16. Test Filter User Accounts by Employee as Super Admin
17. Test Filter User Accounts by Organisation as Super Admin
18. Test Change/Reset Password as Super Admin
19. Test Invalid Input Test for Account Creation
20. Test Invalid Input of Contact Info
21. Test Invalid Input for Organisation creation

Test Schedule

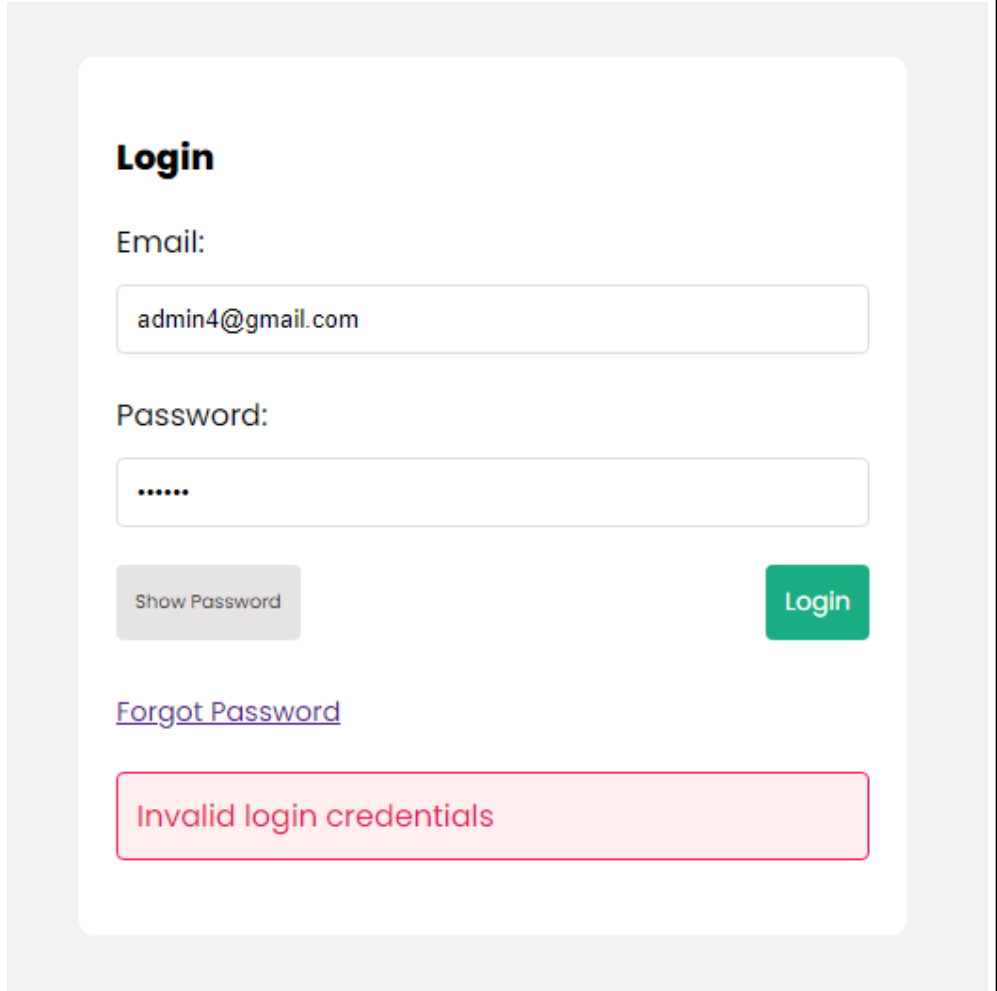
Testing Phase	Steps	Activity	Scheduled Dates
Unit Testing	Preparation	Do-up of different test cases for each user	31st Oct 2022
	Execution	Start doing testing according to prepared test case whilst fixing errors/bugs	28th Nov 2022
Integration Testing	Preparation	Do-up of integration test cases	2nd Nov 2022
	Execution	Start doing testing according to prepared test case whilst fixing errors/bugs	30th Nov 2022
UA Testing	Preparation	Do-up of UA test document	4th Nov 2022
	Execution	Start doing testing according to prepared document whilst fixing errors/bugs	2nd Dec 2022

Test Case

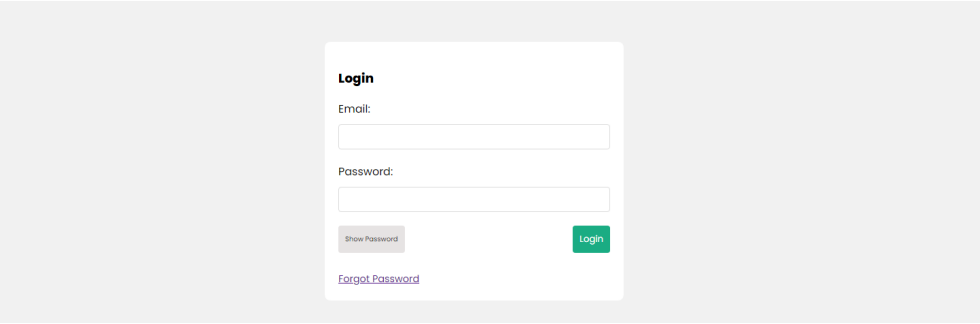
6.1 Login/Logout Functionality

1-1 Project Admin Login Function	
Pre-Condition	<ol style="list-style-type: none"> 1. Account must be created by Super Admin 2. Account must either be of OBS or MSFT Type (e.g., admin1, admin3) 3. Project Admin must be able to access the website login page
Actions	<ol style="list-style-type: none"> 1. Enter “admin1@gmail.com” for the Email text field 2. Enter “admin1” for the Password text field 3. Click on the Login Button
Expected Result	Project Admin will be directed to the admin landing page
Actual Result	<p>Project Admin is directed to the admin landing page</p> 
Pass / Fail	Pass
Observation (if any)	-

1-2 Project Admin Invalid Login Function	
Pre-Condition	<ol style="list-style-type: none"> 1. Account must be created by Super Admin 2. Account must either be of OBS or MSFT Type (e.g., admin1, admin3)

	3. Project Admin must be able to access the website login page
Actions	<ol style="list-style-type: none"> 1. Enter “admin1@gmail.com” for the Email text field 2. Enter “admin2” for the Password text field 3. Click on the Login Button
Expected Result	“Invalid login credentials” error message will appear
Actual Result	<p>“Invalid login credentials” error message appear</p>  <p>The screenshot shows a login form with the title "Login". It has an "Email:" label with a text input field containing "admin4@gmail.com". Below it is a "Password:" label with a text input field containing six dots. There is a "Show Password" button and a green "Login" button. Below the password field is a link for "Forgot Password". At the bottom, a red-bordered box displays the error message "Invalid login credentials".</p>
Pass / Fail	Pass
Observation (if any)	-

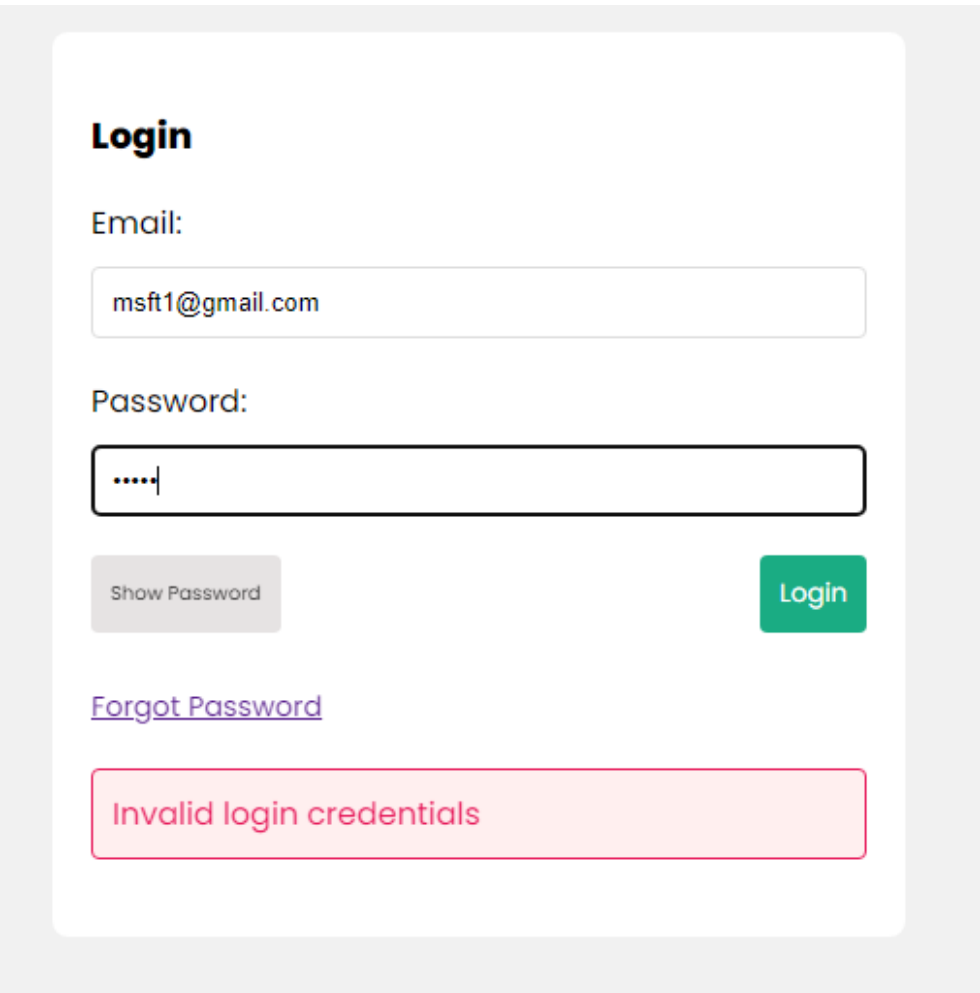
1-3 Project Admin Logout Function

Pre-Condition	Project Admin must be logged into their account
Actions	1. Click the logout button at the top right of the navigation bar
Expected Result	Project Admin will be directed to the login page
Actual Result	<p>Project Admin is directed to the login page</p> <p>Automatic Project Assignment Login</p> 
Pass / Fail	Pass
Observation (if any)	-

1-4 Employee Login Function	
Pre-Condition	<ol style="list-style-type: none"> 1. Account has to be created by Super Admin/Project Admin 2. Account must fall within organisation type (e.g MSFT - MSFT1-50@gmail.com) 3. The Employee must be able to access the website login page
Actions	<ol style="list-style-type: none"> 1. Enter “msft1@gmail.com” for the Email text field 2. Enter “mft1” for the Password text field 3. Click on the Login Button
Expected Result	Employee will be directed to the admin landing page
Actual Result	Employee is directed to the admin landing page

	<div> <div>Automatic Project Assignment</div> <div>Project Listings Select Preference Assigned Projects Profile Log out</div> <div> <div>Project Listings</div> <div> <div>Gaming with Bare Hands via Machine Learning Approach</div> <div>Skills needed: Ruby on Rails, React Native, GraphQL, Swift, C++</div> <div>Created about 24 hours ago by Patrick</div> </div> <div> <div>Counting Maize Tassels in the Wild using Deep Neural Network</div> <div>Skills needed: MongoDB, Java, Ruby on Rails, GraphQL, React Native</div> <div>Created about 24 hours ago by Patrick</div> </div> <div> <div>Water Supply Management</div> <div>Skills needed: MongoDB, PHP, Java, GraphQL, React</div> <div>Created 1 day ago by Patrick</div> </div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

1-5 Employee Invalid Login Function	
Pre-Condition	<ol style="list-style-type: none"> 1. Account has to be created by Super Admin/Project Admin 2. Account must fall within organisation type (e.g MSFT - MSFT1-50@gmail.com) 3. The employee must be able to access the website login page
Actions	<ol style="list-style-type: none"> 1. Enter “msft1@gmail.com” for the Email text field 2. Enter “mft2” for the Password text field 3. Click on the Login Button
Expected Result	“Invalid login credentials” error message will appear
Actual Result	“Invalid login credentials” error message appear

	
Pass / Fail	Pass
Observation (if any)	-

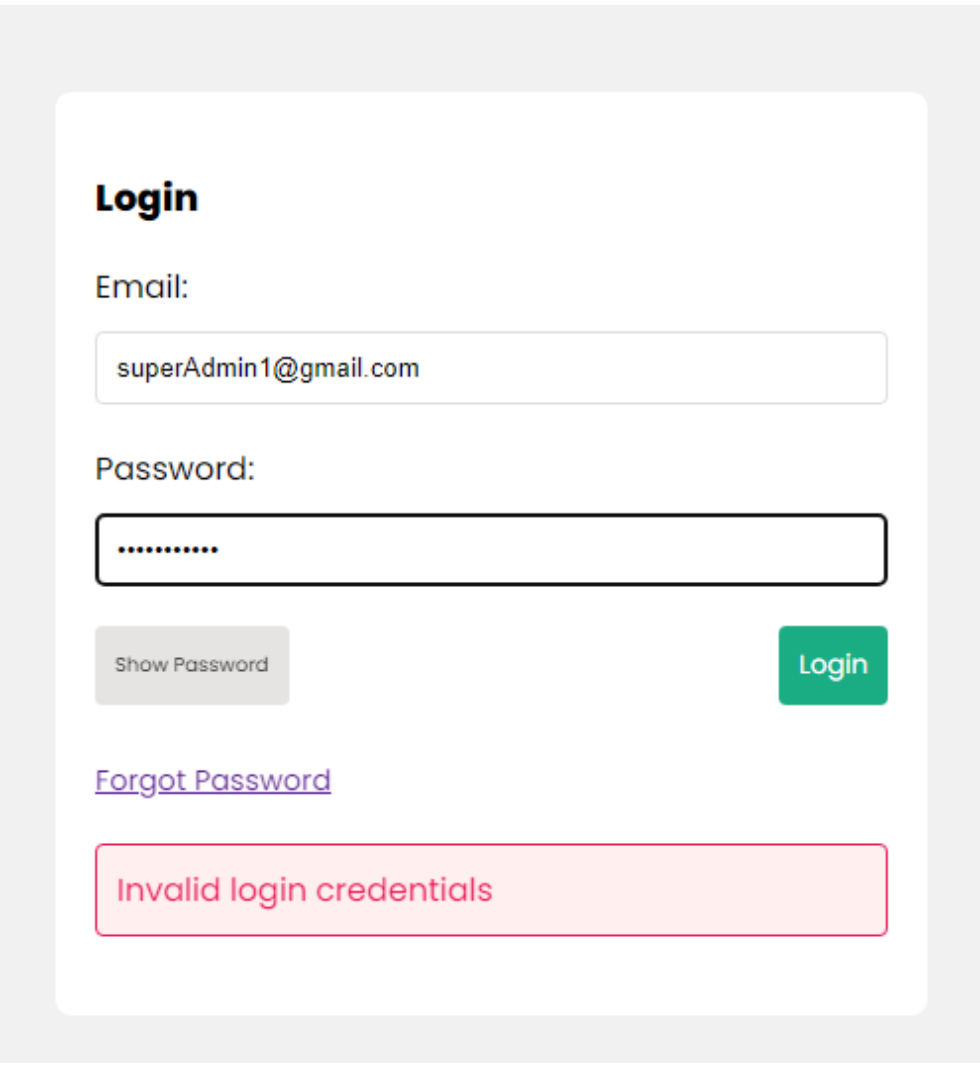
1-6 Employee Logout Function	
Pre-Condition	Employee must be logged into their account
Actions	1. Click the logout button at the top right of the navigation bar
Expected Result	Employee will be directed to the login page
Actual Result	Employee is directed to the login page

	<div> <div>Automatic Project Assignment</div> <div>Login</div> <div> <div> <div>Login</div> <div>Email:</div> <input type="text"/> <div>Password:</div> <input type="password"/> <div>Show Password</div> <div>Login</div> <div>Forgot Password</div> </div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

1-7 Super Admin Login Function	
Pre-Condition	<ol style="list-style-type: none"> 1. Account has to be created by (not sure check w/ matt again) 2. Account must be .. 3. Super Admin must be able to access website login page
Actions	<ol style="list-style-type: none"> 1. Enter “superAdmin1@gmail.com” for the Email text field 2. Enter “superAdmin1” for the Password text field 3. Click on the Login Button
Expected Result	Super Admin will be directed to the admin landing page
Actual Result	Super Admin is directed to the admin landing page

	<div> <div>Automatic Project Assignment</div> <div>Create Organisation Create Account All Users Profile Log out</div> <div> <div>Organisation Listings</div> <div> <div>test org skills</div> <div> <div>Organisation Code: tos</div> <div>Created about 22 hours ago by Mr Boss</div> </div> </div> <div> <div>ABC</div> <div> <div>Organisation Code: 1234</div> <div>Created about 2 months ago by Mr Boss</div> </div> </div> <div> <div>Orange Business Services</div> <div> <div>Organisation Code: OBS</div> <div>Created about 2 months ago by Mr Boss</div> </div> </div> <div> <div>Microsoft Singapore</div> <div> <div>Organisation Code: MSFT</div> <div>Created about 2 months ago by Mr Boss</div> </div> </div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

1-8 Super Admin Invalid Login Function	
Pre-Condition	<ol style="list-style-type: none"> 1. Account has to be created by (not sure check w/ matt again) 2. Account must be .. 3. Super Admin must be able to access website login page
Actions	<ol style="list-style-type: none"> 1. Enter “superAdmin1@gmail.com” for the Email text field 2. Enter “superAdmin2” for the Password text field 3. Click on the Login Button
Expected Result	“Invalid login credentials” error message will appear
Actual Result	“Invalid login credentials” error message appear

	 <p>The screenshot shows a login interface with the title 'Login'. It includes an 'Email:' label with a text input containing 'superAdmin1@gmail.com', a 'Password:' label with a password input showing eight dots, a 'Show Password' button, and a green 'Login' button. Below the password field is a link for 'Forgot Password'. At the bottom, a red-bordered box displays the error message 'Invalid login credentials'.</p>
Pass / Fail	Pass
Observation (if any)	-

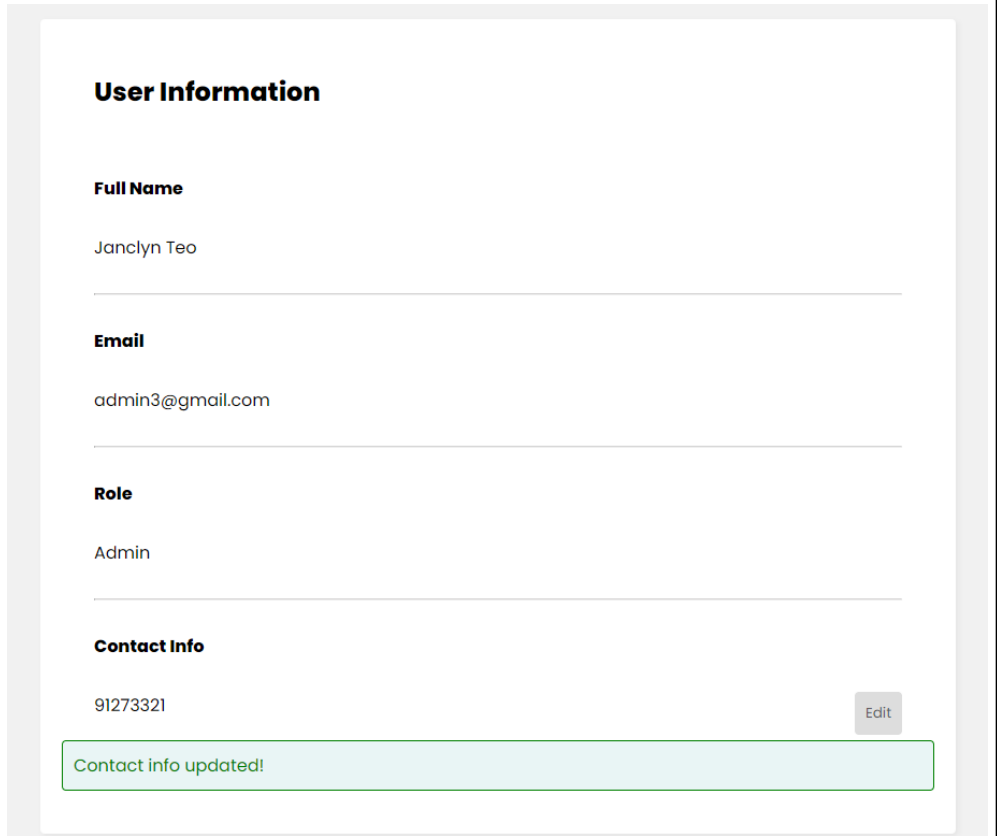
1-9 Super Admin Logout Function	
Pre-Condition	Super Admin must be logged into their account
Actions	1. Click the logout button at the top right of the navigation bar
Expected Result	Super Admin will be directed to the login page
Actual Result	Super Admin is directed to the login page

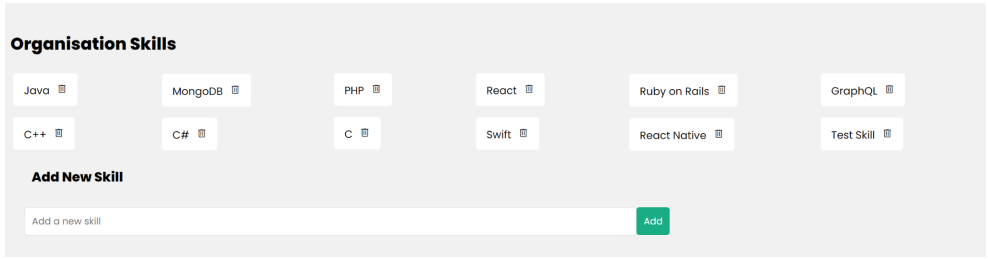
	<div> <div>Automatic Project Assignment</div> <div>Login</div> <div> <div> <div>Login</div> <div>Email:</div> <input type="text"/> <div>Password:</div> <input type="password"/> <div>Show Password</div> <div>Login</div> <div>Forgot Password</div> </div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

1-10 Forgot Password Function	
Pre-Condition	There must be existing user accounts within the system
Actions	Click on “Forgot Password” button under “Show Password” Enter Email Address of intended account Click on “Submit” button
Expected Result	Reset Password Email will be mailed to the entered email address and the message “Email is valid. Please check your email inbox” will be displayed
Actual Result	Reset Password Email is mailed to the entered email address and the message “Email is valid. Please check your email inbox” is displayed

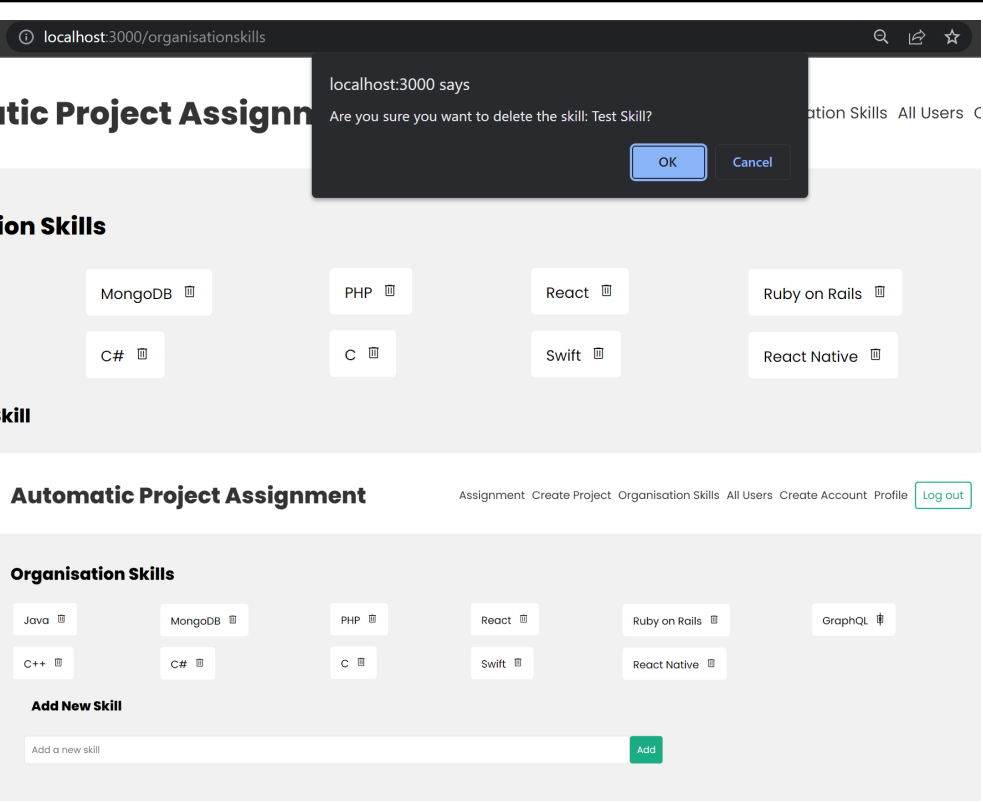
	<div> <div>Automatic Project Assignment</div> <div>Login</div> <div> <div> <div>Forgot Password</div> <div>Enter your email address to reset your password.</div> <div>Email Address:</div> <div>ms121@gmail.com</div> <div>Submit</div> <div>Email is valid. Please check your email inbox.</div> <div>Token:</div> <div></div> <div>New Password:</div> <div></div> <div>Confirm Password:</div> <div></div> <div>Reset</div> </div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

6.2 Project Admin

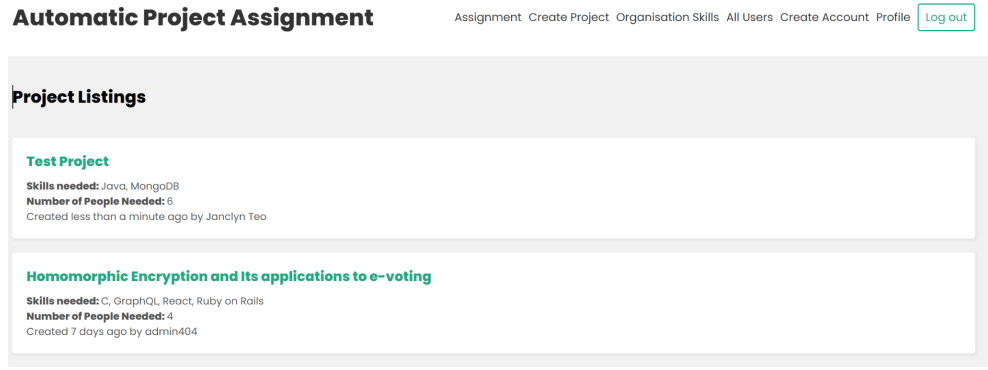
2-1 Test for Update Contact Details as Project Admin	
Pre-Condition	1. User must be logged in as Project Admin
Actions	1. Project Admin click on “Profile” from navigation bar 2. Click on the “Edit” Button 3. Enter “91273321” for the New Contact Information text field 4. Click on the “Submit” Button
Expected Result	Contact info is successfully updated
Actual Result	Contact info is updated!  <p>The screenshot displays a 'User Information' form with the following fields and values:</p> <ul style="list-style-type: none"> Full Name: Janclyn Teo Email: admin3@gmail.com Role: Admin Contact Info: 91273321 <p>An 'Edit' button is visible next to the Contact Info field. A green success message at the bottom states: 'Contact info updated!'.</p>
Pass / Fail	Pass
Observation (if any)	-

2-2 Test for Project Admin Create Organisation Skill	
Pre-Condition	1. User must be logged in as Project Admin
Actions	1. Project Admin click on “Organisation Skill” from navigation bar 2. Enter “Test Skill” for the Add a new skill text field 3. Click on the “Add” Button
Expected Result	Skill will be added into the list of skills
Actual Result	Skill added into the list of skills 
Pass / Fail	Pass
Observation (if any)	-

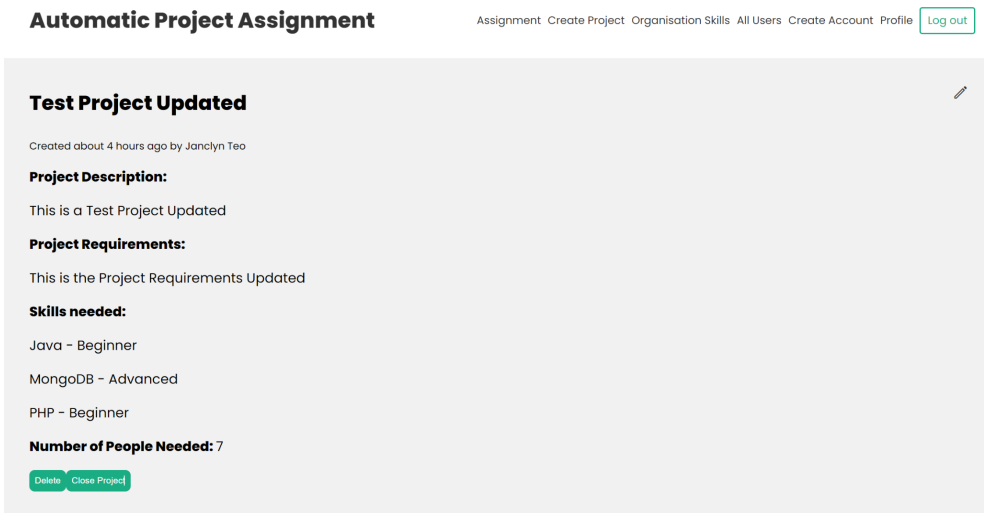
2-3 Test for Project Admin Delete Organisation Skill	
Pre-Condition	1. User must be logged in as Project Admin
Actions	1. Project Admin click on “Organisation Skills” from navigation bar 2. Click on the “Dustbin” Icon beside “Test Skill” 3. Click on “Ok” from popout prompting for confirmation of deletion
Expected Result	Skill will be removed from the list of skills
Actual Result	Skill removed from the list of skills

	
Pass / Fail	Pass
Observation (if any)	-

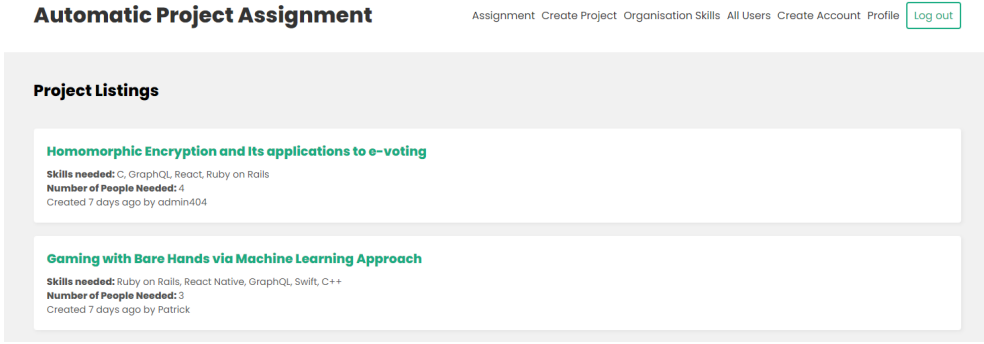
2-4 Test for Project Admin Create Project	
Pre-Condition	1. User must be logged in as Project Admin
Actions	<ol style="list-style-type: none"> 1. Project Admin click on “Create Project” from navigation bar 2. Enter “Test Project” for the Project Title text field 3. Enter “This is a Test Project” for the Project Description field 4. Enter “This is the Project Requirements” for the Project Requirements text field 5. Click on the “Add Skills” Button 6. Select “Java” for Please select a Skill dropdown list 7. Select “Beginner” for Please select a competency level dropdown list 8. Repeat Step 5 9. Select “MongoDB” for Please select a Skill dropdown list

	10. Select “Beginner” for Please select a competency level dropdown list 11. Enter “6” for Number of People text field 12. Click on the “Add New Project Listing” Button
Expected Result	Project Admin will be redirected to the main landing/project listing page with new project listing at the top
Actual Result	Project Admin is redirected to the main landing/project listing page with new project listing at the top  <p>The screenshot shows the 'Automatic Project Assignment' web application. At the top, there is a navigation bar with links: Assignment, Create Project, Organisation Skills, All Users, Create Account, Profile, and a Log out button. Below the navigation bar is a section titled 'Project Listings'. It contains two project cards. The first card is titled 'Test Project' and lists 'Skills needed: Java, MongoDB', 'Number of People Needed: 6', and 'Created less than a minute ago by Janclyn Teo'. The second card is titled 'Homomorphic Encryption and its applications to e-voting' and lists 'Skills needed: C, GraphQL, React, Ruby on Rails', 'Number of People Needed: 4', and 'Created 7 days ago by admin404'.</p>
Pass / Fail	Pass
Observation (if any)	-

2-5 Test for Project Admin Update Project Details	
Pre-Condition	1. User must be logged in as Project Admin 2. User must be at Project Listing Page 3. The chosen Project Listing must exist
Actions	1. Project Admin click on “Test Project” from project listings 2. Click on the “Pencil” icon on the top right to edit project listing 3. Enter “Test Project Updated” for the Project Titlefield 4. Enter “This is a Test Project Updated” for the Project Description field 5. Enter “This is the Project Requirements Updated” for the Project Requirements text field 6. Click on the “Add Skills” Button 7. Select “PHP” for Please select a Skill dropdown list

	8. Select “Beginner” for Please select a competency level dropdown list 9. Select “Advanced” for Please select a competency level dropdown list of MongoDB 10. Enter “7” for the Number of People text field 11. Click on the “Edit Project Listing” Button
Expected Result	Project Admin will be redirected to the project listing page with updated details
Actual Result	Project Admin is redirected to the project listing page with updated details 
Pass / Fail	Pass
Observation (if any)	-

2-6 Test for Project Admin to Remove Project	
Pre-Condition	1. User must be logged in as Project Admin 2. User must be at Project Listing Page 3. The chosen Project Listing must exist
Actions	1. Project Admin clicks on “Test Project” from project listings 2. Click on the “Delete” button
Expected Result	Project removed and redirect the user back to Project Listing Page

Actual Result	<p>Project removed and redirect user back to Project Listing Page</p>  <p>The screenshot shows the 'Automatic Project Assignment' page. At the top, there is a navigation bar with links: Assignment, Create Project, Organisation Skills, All Users, Create Account, Profile, and a Log out button. Below the navigation bar is a section titled 'Project Listings'. It contains two project cards. The first card is titled 'Homomorphic Encryption and Its applications to e-voting' and lists skills needed: C, GraphQL, React, Ruby on Rails. It also states 'Number of People Needed: 4' and 'Created 7 days ago by admin404'. The second card is titled 'Gaming with Bare Hands via Machine Learning Approach' and lists skills needed: Ruby on Rails, React Native, GraphQL, Swift, C++. It also states 'Number of People Needed: 3' and 'Created 7 days ago by Patrick'.</p>
Pass / Fail	Pass
Observation (if any)	-

2-7 Test for Project Admin Create Employee Account	
Pre-Condition	1. The user must be logged in as Project Admin
Actions	<ol style="list-style-type: none"> 1. Project Admin click on “Create Account” from the navigation bar 2. Enter “testemp1” for the Name text field 3. Enter “testemp1@gmail.com” for the Email text field 4. Enter “testemp1” for the Password text field 5. Enter “testemp1” for the Confirm Password text field 6. Select “Employee” for the Role dropdown list 7. Click on the “Sign Up” Button
Expected Result	“Account created successfully!” success message will appear
Actual Result	“Account for (testemp1@email.com) created successfully!” message appear

Account Creation

Name:

Email:

Organisation:

Password:

Confirm Password:

Role:

Sign up

Account for (testemp1@email.com) created successfully!

Pass / Fail	Pass
Observation (if any)	-

2-8 Test for Project Admin Create Existing Employee Account	
Pre-Condition	<ol style="list-style-type: none"> 1. The user must be logged in as Project Admin 2. An Account Using the Same Email must exist
Actions	<ol style="list-style-type: none"> 1. Project Admin click on “Create Account” from the navigation bar 2. Enter “testemp1” for the Name text field 3. Enter “testemp1@gmail.com” for the Email text field 4. Enter “testemp1” for the Password text field 5. Enter “testemp1” for the Confirm Password text field 6. Select “Employee” for the Role dropdown list 7. Click on the “Sign Up” Button
Expected Result	“Account already exists” error message will appear
Actual Result	“Email already in use” error message appear

Account Creation

Name:

Email:

Organisation:

MSFT

Password:

Confirm Password:

Role:

Please choose one ▼

Sign up

Email already in use

Pass / Fail	Pass
Observation (if any)	-

2-9 Test for Project Admin Create Account with no matching password	
Pre-Condition	<ol style="list-style-type: none"> 1. The user must be logged in as Project Admin 2. An Account Using the Same Email must exist
Actions	<ol style="list-style-type: none"> 1. Project Admin click on “Create Account” from the navigation bar 2. Enter “testemp1” for the Name text field 3. Enter “testemp1@gmail.com” for the Email text field 4. Enter “testemp2” for the Password text field 5. Enter “testemp3” for the Confirm Password text field 6. Select “Employee” for the Role dropdown list 7. Click on the “Sign Up” Button
Expected Result	“Passwords do not match” error message will appear
Actual Result	“Passwords do not match” error message appear

Account Creation

Name:

Email:

Organisation:

Password:

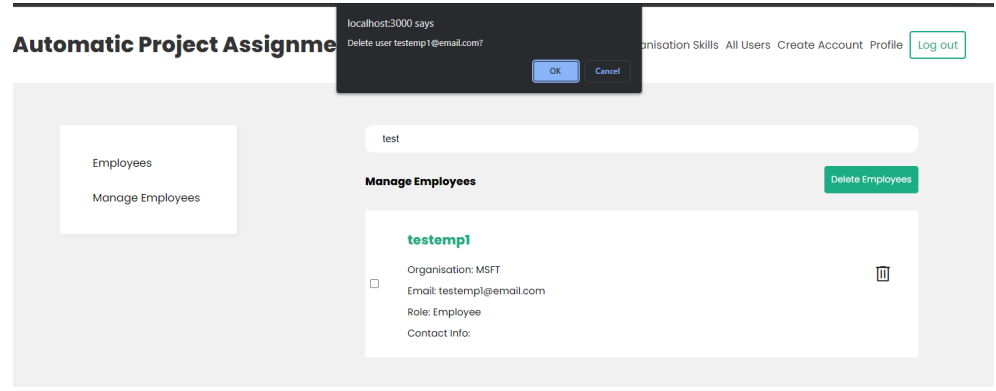
Confirm Password:

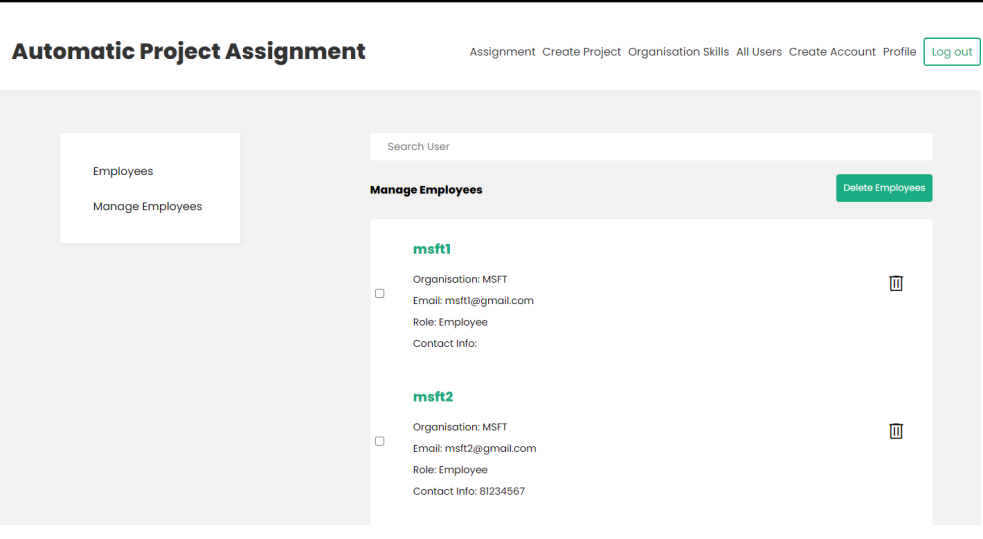
Role:

Sign up

Passwords do not match

Pass / Fail	Pass
Observation (if any)	-

2-10 Test for Project Admin Delete Employee Account	
Pre-Condition	<ol style="list-style-type: none"> 1. The user must be logged in as Project Admin 2. The chosen Employee account must exist
Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “All Users” from the navigation bar 2. Click on “Manage Employees” on the side navigation bar 3. Clicks on the “Dustbin” icon beside testempl 4. Click on “Ok” from the pop-out window prompting for confirmation of deletion
Expected Result	Account will be deleted and refreshed back to All Users Page
Actual Result	<p>Account deleted and refreshed back to All Users Page</p> 

	
Pass / Fail	Pass
Observation (if any)	-

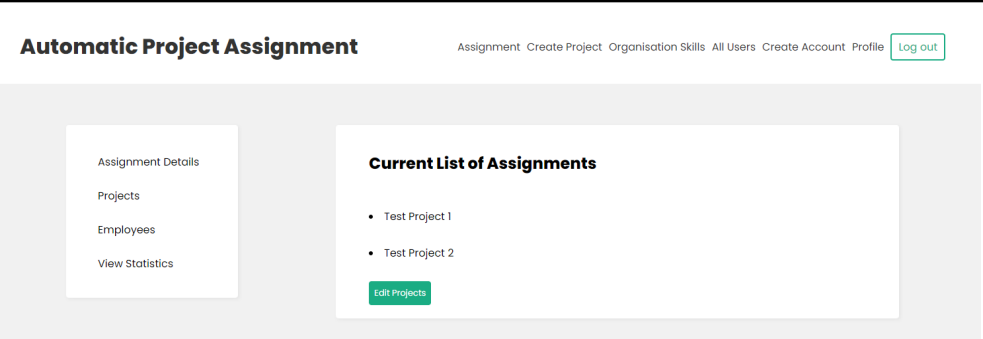
2-11 Test for Project Admin Edit Employee Account Contact Info	
Pre-Condition	<ol style="list-style-type: none"> 1. The user must be logged in as Project Admin 2. The chosen Employee account must exist
Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “All Users” from the navigation bar 2. Click on “testemp2” from the user listings 3. Click on the “Edit” button below Contact Info 4. Enter “91234567” into the text field 5. Click on the “Save” button
Expected Result	Contact Info will be updated and the page will be refreshed
Actual Result	Contact Info updated and the page is refreshed with new contact information

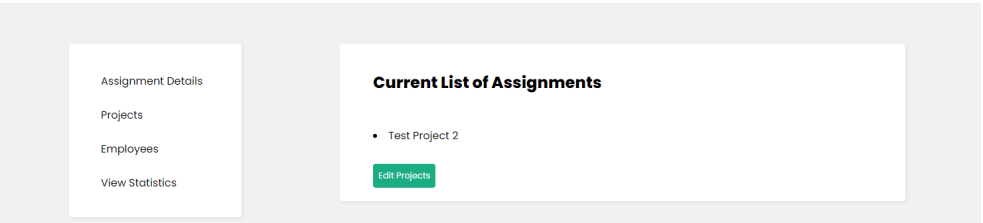
	<div> <div>Automatic Project Assignment</div> <div>Assignment Create Project Organisation Skills All Users Create Account Profile Log out</div> </div> <div> Back to Users </div> <div> <div>User Details</div> <div> <div> <div>Organisation</div> <div>MSFT</div> </div> <div> <div>Skills</div> </div> </div> <div> <div> <div>Name</div> <div>testemp2</div> </div> <div> <div>Name</div> <div>testemp2@gmail.com</div> </div> <div> <div>Role</div> <div>Employee</div> </div> <div> <div>Contact info</div> <div>91234567 Edit</div> </div> </div> <div> <div>Projects</div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

2-12 Test for Project Admin Create Assignments	
Pre-Condition	1. The user must be logged in as Project Admin
Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “Assignment” from the navigation bar 2. Enter “Test Assignment 1” into the Assignment Title text field 3. Select “12 Feb 2023” for Start Date Field 4. Select “19 Feb 2023” for End Date Field 5. Enter “2” for the threshold text field 6. Click on the “Save” button
Expected Result	Assignment will be created and the page will be refreshed
Actual Result	Assignment created and page is refreshed with new assignment information

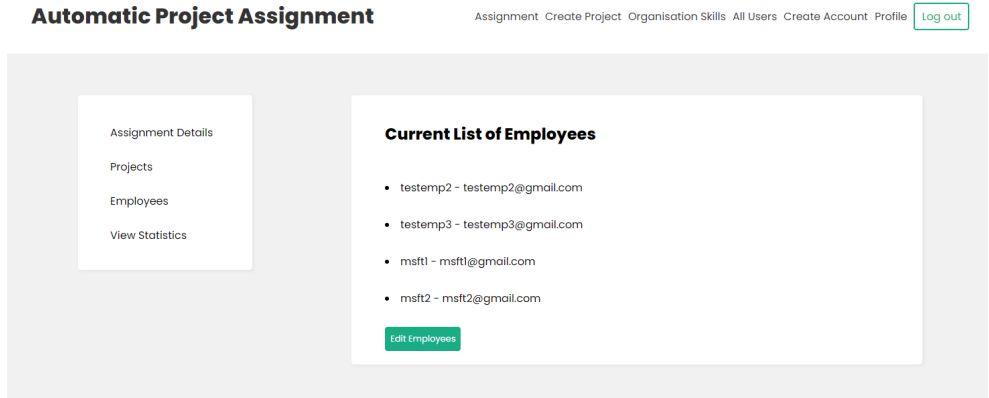
	<div> <div>Automatic Project Assignment</div> <div>Assignment Create Project Organisation Skills All Users Create Account Profile Log out</div> </div> <div> <div>Project Assignment</div> <div> <div> <div>Test Assignment 1</div> <div> <div>Projects: 0</div> <div>Employees: 0</div> <div>Threshold: 2</div> <div>Start Date: 12/02/2023</div> <div>End Date: 19/02/2023</div> <div>Created by: Janclyn Teo less than a minute ago</div> </div> </div> <div> <div>MSFT 3</div> <div> <div>Projects: 10</div> <div>Employees: 30</div> <div>Threshold: 1</div> <div>Start Date: 31/01/2023</div> <div>End Date: 02/03/2023</div> <div>Created by: Patrick 17 days ago</div> </div> </div> </div> <div> <div>Add a New Assignment</div> <div> <div>Assignment Title:</div> <div></div> </div> <div> <div>Start Date:</div> <div>mm / dd / yyyy</div> <div></div> </div> <div> <div>End Date:</div> <div>mm / dd / yyyy</div> <div></div> </div> <div> <div>Threshold:</div> <div>0</div> </div> <div>Add Assignment</div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

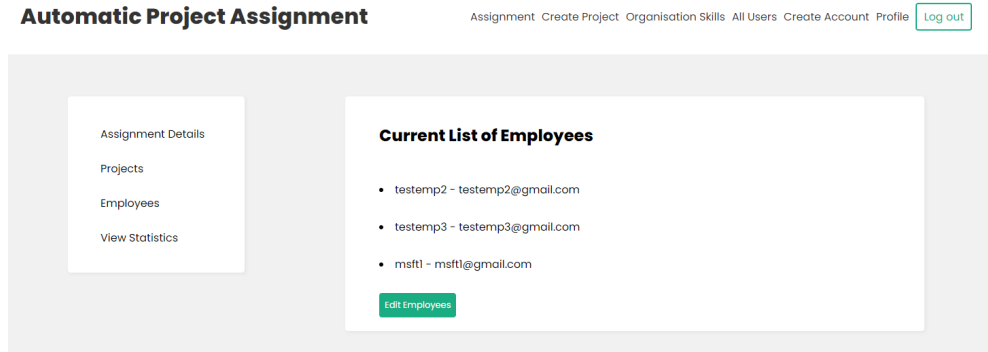
2-13 Test for Project Admin Add Projects into Assignment	
Pre-Condition	<ol style="list-style-type: none"> 1. The user must be logged in as Project Admin 2. The chosen Assignment must exist
Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “Assignment” from the navigation bar 2. Click on “Test Assignment 1” from Assignment Listing\ 3. Project Admin clicks on the “Update Assignment Status” button if the Status is Inactive 4. Click on “Projects” on the side navigation bar 5. Click on the “Edit Projects” button 6. Select “Test Project 1” from the Select a Project Dropdown list 7. Select “Test Project 2” from the Select a Project Dropdown list 8. Click on the “Submit” button
Expected Result	Projects will be added to the assignment and the page will be refreshed
Actual Result	Projects be added into assignment and page refreshed

	
Pass / Fail	Pass
Observation (if any)	-

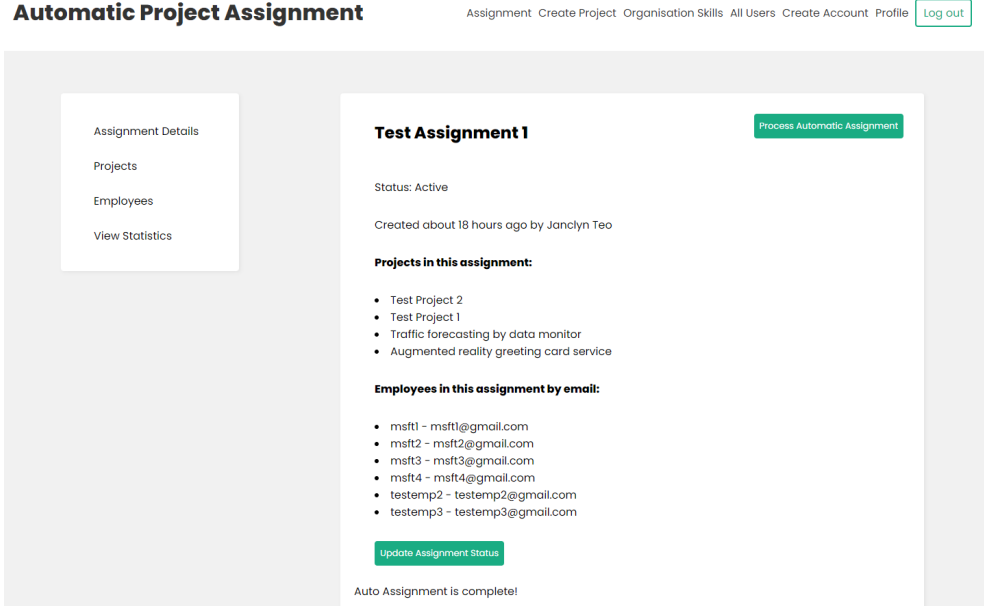
2-14 Test for Project Admin Remove Projects from Assignment	
Pre-Condition	<ol style="list-style-type: none"> 1. User must be logged in as Project Admin 2. The chosen Assignment must exist
Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “Assignment” from navigation bar 2. Click on “Test Assignment 1” from the Assignment Listing 3. Project Admin click on “Update Assignment Status” button if Status is Inactive 4. Click on “Projects” on the side navigation bar 5. Click on “Edit Projects” button 6. Select “Dustbin” Icon beside “Test Project 1” 7. Click on “Submit” button
Expected Result	Project will be removed from assignment and page will be refreshed
Actual Result	<p>Project removed from assignment and page refreshed</p> 
Pass / Fail	Pass

Observation (if any)	-
----------------------	---

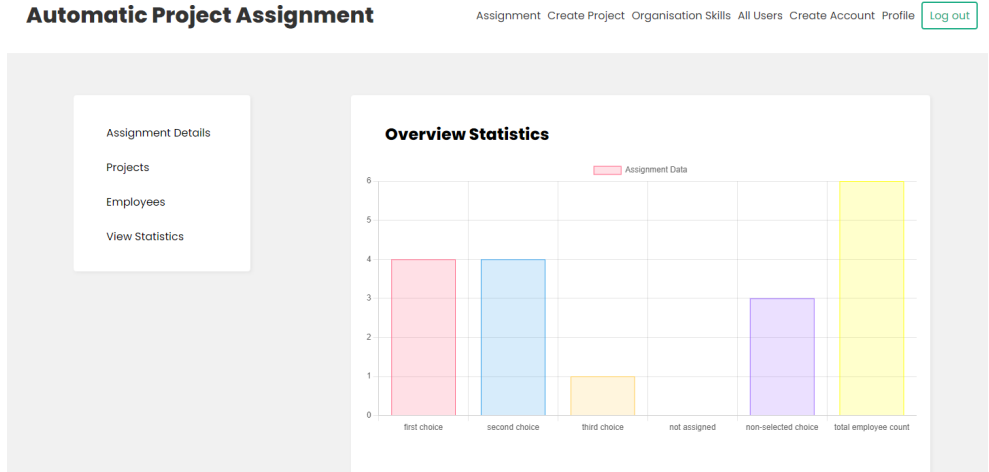
2-15 Test for Project Admin Adding Employees into Assignment	
Pre-Condition	<ol style="list-style-type: none"> 1. User must be logged in as Project Admin 2. The chosen Assignment must exist
Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “Assignment” from the navigation bar 2. Click on “Test Assignment 1” from Assignment Listings. 3. Project Admin click on the “Update Assignment Status” button if the Status is Inactive 4. Click on “Employees” on the side navigation bar 5. Click on “Edit Employees” button 6. Select “testemp2” from the Select an Employee Dropdown list 7. Select “testemp3” from the Select an Employee Dropdown list 8. Select “msft1” from the Select an Employee Dropdown list 9. Select “msft2” from the Select an Employee Dropdown list 10. Click on the “Submit” button
Expected Result	Employees will be added into assignment and the page will be refreshed
Actual Result	<p>Employees added into assignment and page is refreshed</p> 
Pass / Fail	Pass
Observation (if any)	-

2-16 Test for Project Admin Remove Employees from Assignment	
Pre-Condition	<ol style="list-style-type: none"> 1. The user must be logged in as Project Admin 2. The chosen Assignment must exist
Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “Assignment” from the navigation bar 2. Click on “Test Assignment 1” from Assignment Listing 3. Project Admin clicks on the “Update Assignment Status” button if the Status is Inactive 4. Click on “Employees” on the side navigation bar 5. Click on the “Edit Employees” button 6. Select the “Dustbin” Icon beside “msft2@gmail.com” 7. Click on the “Submit” button
Expected Result	Employee will be removed from the assignment and the page will be refreshed
Actual Result	<p>Employee removed from assignment and is page refreshed</p>  <p>The screenshot shows the 'Automatic Project Assignment' dashboard. On the left is a sidebar with 'Assignment Details', 'Projects', 'Employees', and 'View Statistics'. The main content area is titled 'Current List of Employees' and displays a list of three employees: 'testemp2 - testemp2@gmail.com', 'testemp3 - testemp3@gmail.com', and 'msft1 - msft1@gmail.com'. Below the list is a green 'Edit Employees' button. At the top right of the dashboard, there are links for 'Assignment', 'Create Project', 'Organisation Skills', 'All Users', 'Create Account', 'Profile', and a 'Log out' button.</p>
Pass / Fail	Pass
Observation (if any)	-

2-17 Test for Project Admin Process Automatic Assignment	
Pre-Condition	<ol style="list-style-type: none"> 1. User must be logged in as Project Admin 2. The chosen Assignment must exist

	<ol style="list-style-type: none"> 3. Projects must be added to Assignment 4. Employees must be added to Assignment
Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “Assignment” from the navigation bar 2. Click on “Test Assignment 1” from Assignment Listing 3. Project Admin clicks on the “Update Assignment Status” button if the Status is Inactive 4. Click on the “Process Automatic Assignment” button
Expected Result	“Auto Assignment is completed!” success message
Actual Result	<p>“Auto Assignment is complete!” message is displayed.</p> 
Pass / Fail	Pass
Observation (if any)	-

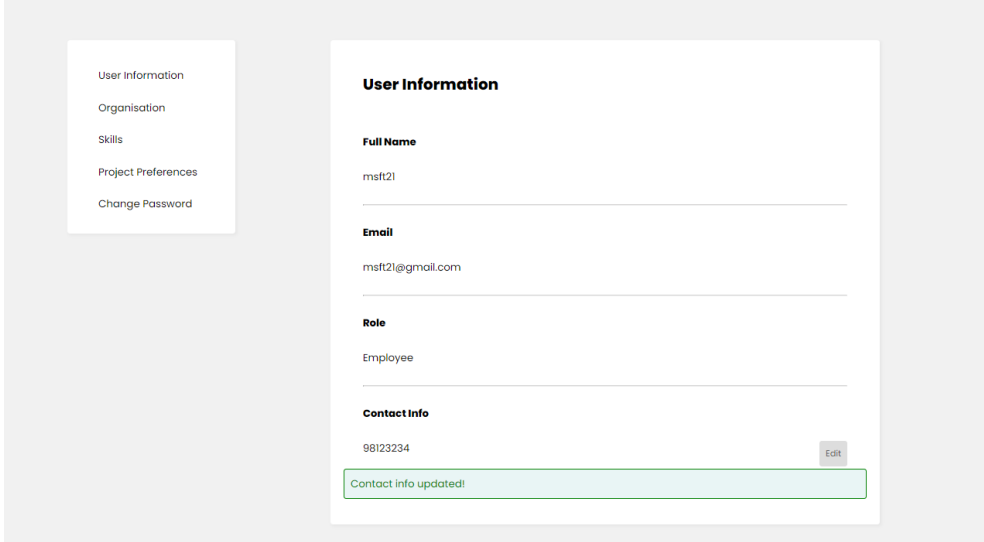
2-18 Test for Project Admin View Assignment Statistics	
Pre-Condition	<ol style="list-style-type: none"> 1. User must be logged in as Project Admin 2. The chosen Assignment must exist 3. Projects must be added to Assignment 4. Employees must be added to Assignment 5. The assignment must be processed already

Actions	<ol style="list-style-type: none"> 1. Project Admin clicks on “Assignment” from the navigation bar 2. Click on “Test Assignment 1” from Assignment Listing 3. Click on “View Statistics” from the side navigation bar 														
Expected Result	Statistic results of the assignment process will show														
Actual Result	<p>Statistic results of the assignment process is shown</p>  <p>The screenshot displays the 'Automatic Project Assignment' dashboard. At the top, there is a navigation bar with links: Assignment, Create Project, Organisation Skills, All Users, Create Account, Profile, and a Log out button. Below the navigation bar, there is a sidebar menu with options: Assignment Details, Projects, Employees, and View Statistics. The main content area features a bar chart titled 'Overview Statistics' showing the distribution of assignment data across six categories: first choice, second choice, third choice, not assigned, non-selected choice, and total employee count. The y-axis represents the count, ranging from 0 to 6. The bars are color-coded: first choice (pink), second choice (blue), third choice (orange), not assigned (grey), non-selected choice (purple), and total employee count (yellow).</p> <table border="1"> <caption>Overview Statistics Data</caption> <thead> <tr> <th>Category</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>first choice</td> <td>4</td> </tr> <tr> <td>second choice</td> <td>4</td> </tr> <tr> <td>third choice</td> <td>1</td> </tr> <tr> <td>not assigned</td> <td>0</td> </tr> <tr> <td>non-selected choice</td> <td>3</td> </tr> <tr> <td>total employee count</td> <td>6</td> </tr> </tbody> </table>	Category	Count	first choice	4	second choice	4	third choice	1	not assigned	0	non-selected choice	3	total employee count	6
Category	Count														
first choice	4														
second choice	4														
third choice	1														
not assigned	0														
non-selected choice	3														
total employee count	6														
Pass / Fail	Pass														
Observation (if any)	-														

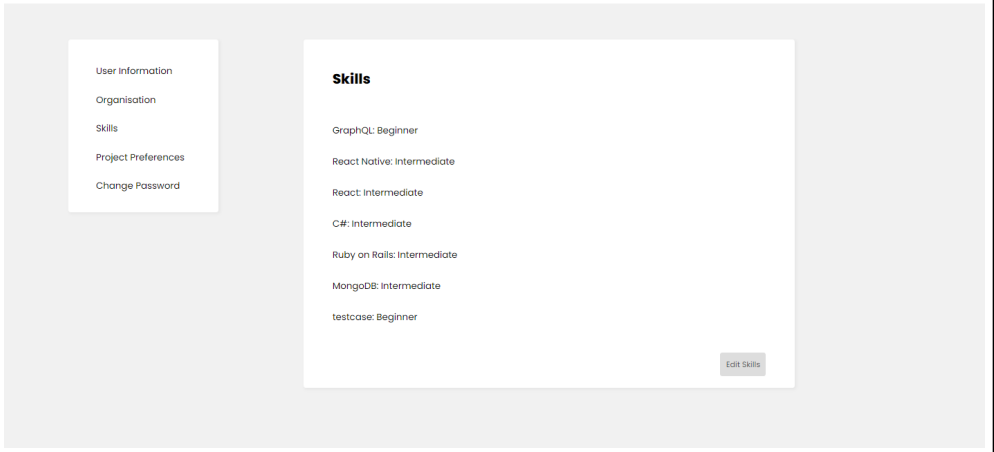
6.3 Employee

3-1 View account information as Employee	
Pre-Condition	Employee must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “User Information” on the left navigation bar
Expected Result	Employee is able to view their account information
Actual Result	<p>Employee’s account information is displayed</p> <p>The screenshot displays the 'Automatic Project Assignment' user interface. At the top, there's a navigation bar with links: 'Project Listings', 'Select Preference', 'Assigned Projects', 'Profile', and a 'Log out' button. The 'Profile' section is active. On the left, a sidebar menu shows 'User Information' as the selected option, with other options like 'Organisation', 'Skills', 'Project Preferences', and 'Change Password'. The main content area, titled 'User Information', contains several form fields: 'Full Name' with the value 'msft21', 'Email' with 'msft21@gmail.com', 'Role' with 'Employee', and 'Contact Info' with '98768765'. An 'Edit' button is located next to the contact number.</p>
Pass / Fail	Pass
Observation (if any)	-

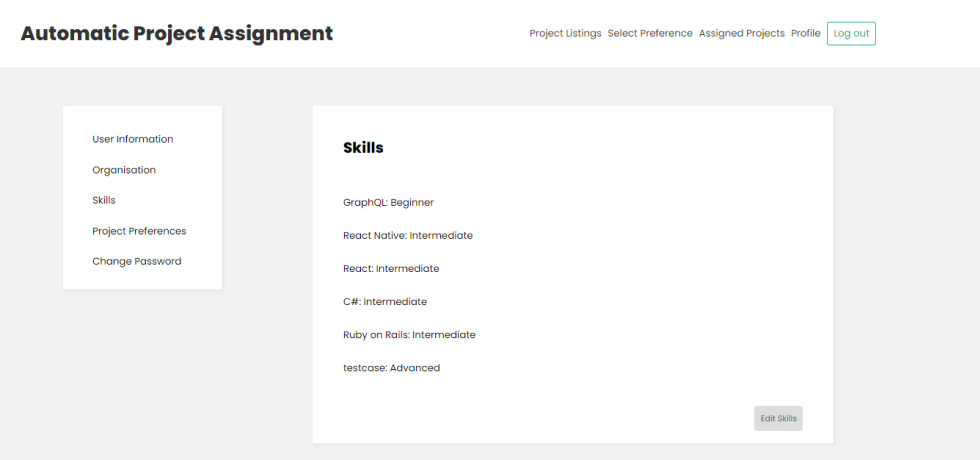
3-2 Update account information as Employee	
Pre-Condition	Employee must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “User Information” on the left navigation bar 3. Click on the “Edit” button beside Contact Info 4. Enter contact details on the empty text field 5. Click on the “Submit” button

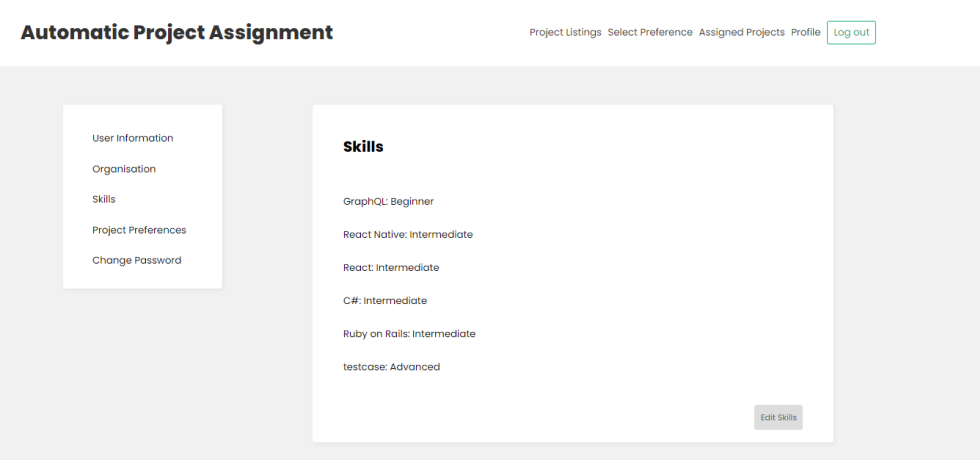
Expected Result	Contact Info is successfully edited and the message “ Contact Info Updated!” is displayed
Actual Result	<p>Updated contact info is saved and the message is displayed</p> 
Pass / Fail	Pass
Observation (if any)	-

3-3 Add skills and competency details as Employee	
Pre-Condition	Employee must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “Skills” on the left navigation bar 3. Click on the “Edit Skills” button 4. Select a skill to be added using the dropdown list under add new skill 5. Select the competency level by using the dropdown list beside the newly added skill 6. Repeat steps 4-5 as many times as needed 7. Click on the “Submit” button when finished
Expected Result	Page returns to the skills page with newly added skills and competency

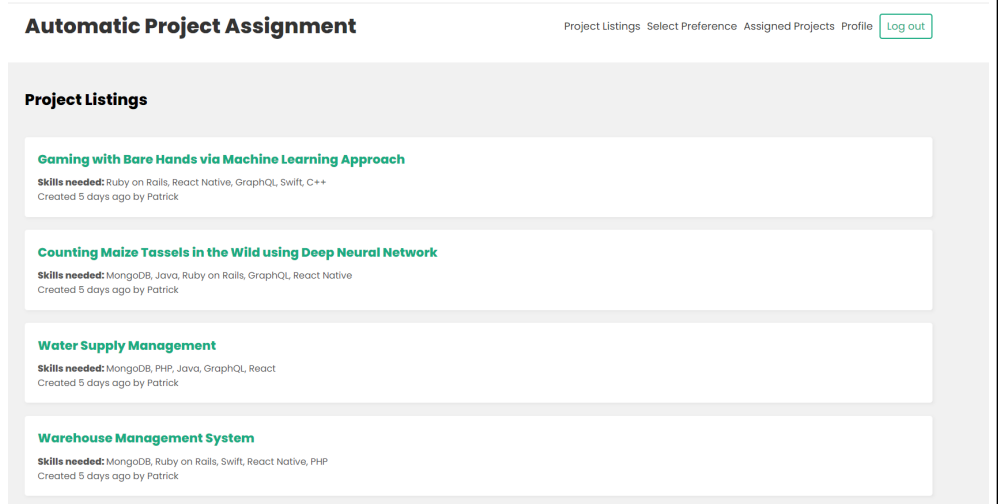
Actual Result	<p>“Skills” page is updated with new skills and competency</p> 
Pass / Fail	Pass
Observation (if any)	-

3-4 Update skills and competency details as Employee	
Pre-Condition	Employee must be logged into their account
Actions	<p><u>Delete Skills</u></p> <ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “Skills” on the left navigation bar 3. Click on the “Edit Skills” button 4. Click on the trash bin icon beside the skill you wish to delete 5. Repeat step 4 as many times as needed 6. Click on the “Submit” button when finished <p><u>Update Skill Competency</u></p> <ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “Skills” on the left navigation bar 3. Click on the “Edit Skills” button 4. Edit the competency level by using the dropdown list beside the skill you wish to update 5. Repeat step 4 as many times as needed 6. Click on the “Submit” button when finished
Expected Result	Page returns to the skills page with newly updated skills and

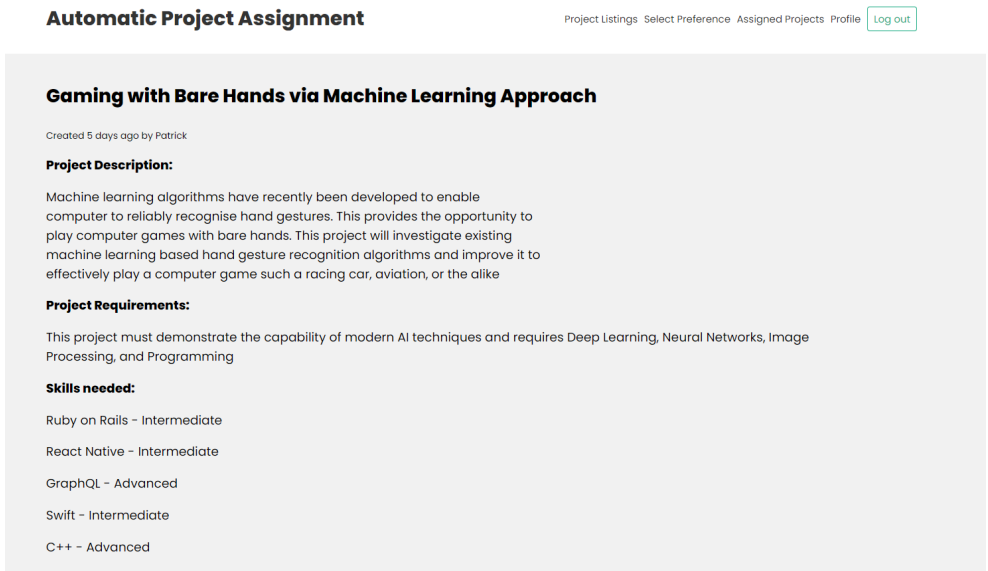
	competency
Actual Result	<p>The “Skills” page is updated with new skills and competency</p> 
Pass / Fail	Pass
Observation (if any)	-

3-5 View skills and competency details as Employee	
Pre-Condition	Employee must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “Skills” on the left navigation bar
Expected Result	Employee’s skills and competency will be displayed
Actual Result	<p>Employee’s skills and competency is displayed</p> 

Pass / Fail	Pass
Observation (if any)	-

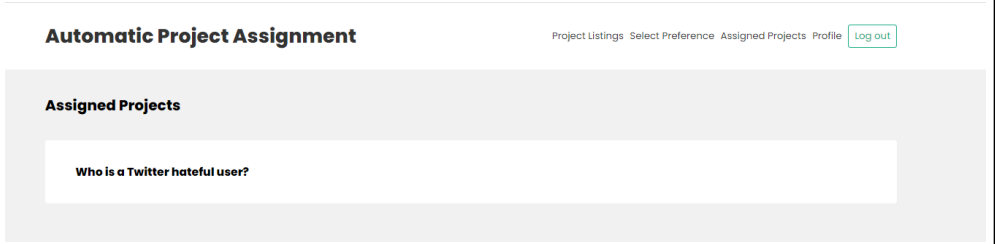
3-6 View project listing as Employee	
Pre-Condition	Employee must be logged into their account
Actions	<p><u>User is at home page</u></p> <ol style="list-style-type: none"> 1. No actions needed <p><u>User is at not home page</u></p> <ol style="list-style-type: none"> 1. Click on “Automatic Project Assignment” on the navigation bar
Expected Result	Existing projects should be displayed on the home page under Project Listings
Actual Result	<p>Existing projects are displayed under the Project listing header</p>  <p>The screenshot shows the 'Automatic Project Assignment' web application. At the top, there is a navigation bar with links: 'Project Listings', 'Select Preference', 'Assigned Projects', 'Profile', and a 'Log out' button. Below the navigation bar, the 'Project Listings' section is displayed. It contains a list of four project cards, each with a title, a list of skills needed, and the creator's name and creation time. The projects are: 'Gaming with Bare Hands via Machine Learning Approach', 'Counting Maize Tassels in the Wild using Deep Neural Network', 'Water Supply Management', and 'Warehouse Management System'.</p>
Pass / Fail	Pass
Observation (if any)	-

3-7 View project details as Employee	
Pre-Condition	Employee must be logged into their account

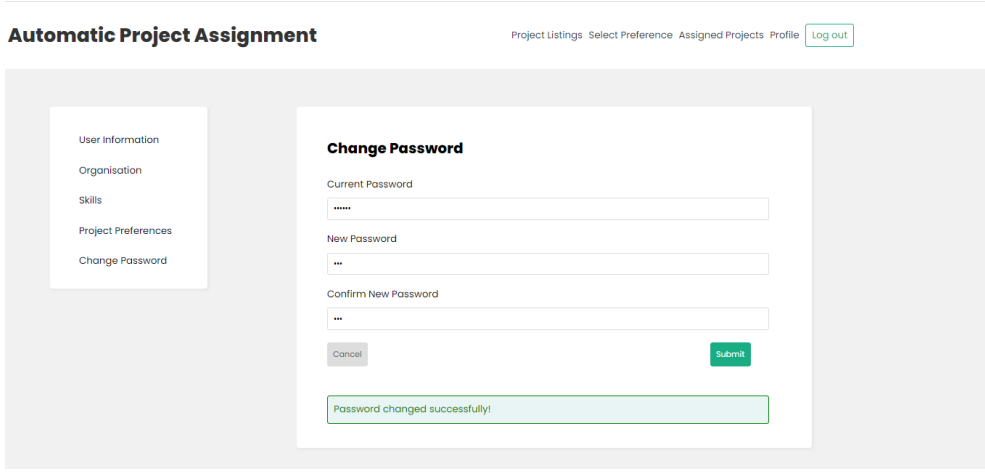
Actions	<p><u>User is at home page</u></p> <ol style="list-style-type: none"> 1. Click on a project you wish to view <p><u>User is at not home page</u></p> <ol style="list-style-type: none"> 1. Click on “Automatic Project Assignment” on the navigation bar 2. Click on a project you wish to view
Expected Result	Selected project will have its details displayed (e.g description, requirements)
Actual Result	<p>Selected project has its details displayed</p>  <p>The screenshot shows a web application titled 'Automatic Project Assignment'. It has a navigation bar with links: 'Project Listings', 'Select Preference', 'Assigned Projects', 'Profile', and a 'Log out' button. The main content area displays a project titled 'Gaming with Bare Hands via Machine Learning Approach' created 5 days ago by Patrick. The project description states: 'Machine learning algorithms have recently been developed to enable computer to reliably recognise hand gestures. This provides the opportunity to play computer games with bare hands. This project will investigate existing machine learning based hand gesture recognition algorithms and improve it to effectively play a computer game such a racing car, aviation, or the alike'. The project requirements are: 'This project must demonstrate the capability of modern AI techniques and requires Deep Learning, Neural Networks, Image Processing, and Programming'. The skills needed are listed as: Ruby on Rails - Intermediate, React Native - Intermediate, GraphQL - Advanced, Swift - Intermediate, and C++ - Advanced.</p>
Pass / Fail	Pass
Observation (if any)	-

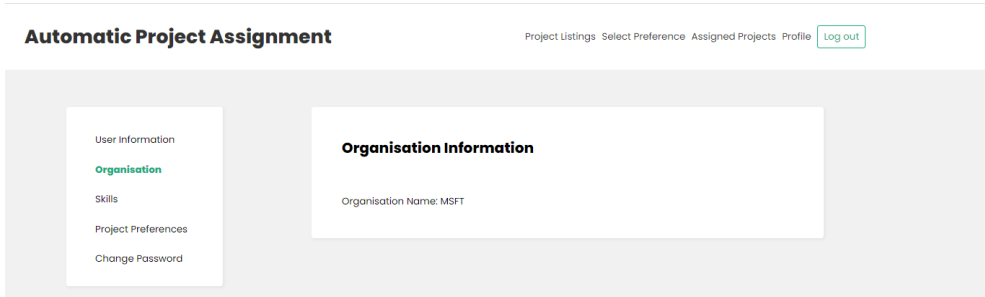
3-8 Input/update project preference as Employee	
Pre-Condition	Employee must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Select Preferences” on the navigation bar 2. Input project preferences using the dropdown list under the respective choices (e.g first choice, third choice) 3. Click on the “Submit” button

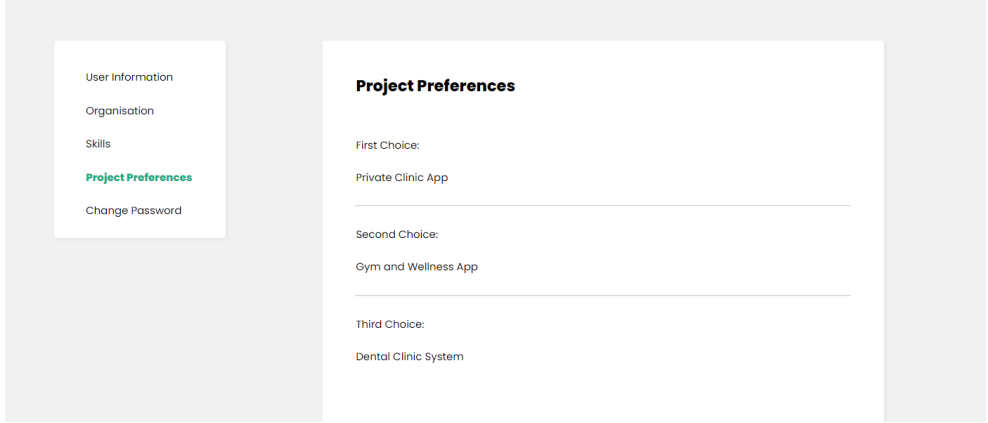
Expected Result	Page is redirected to the home page and the employee's preferences are saved
Actual Result	Page is redirected to the home page and the employee's preferences are saved
Pass / Fail	Pass
Observation (if any)	-

3-9 View assignment result as Employee	
Pre-Condition	Employee must be logged into their account
Actions	Click on “Assigned Projects” on the navigation bar
Expected Result	Assigned project after automation will be shown
Actual Result	<p>The assigned project is shown</p> 
Pass / Fail	Pass
Observation (if any)	-

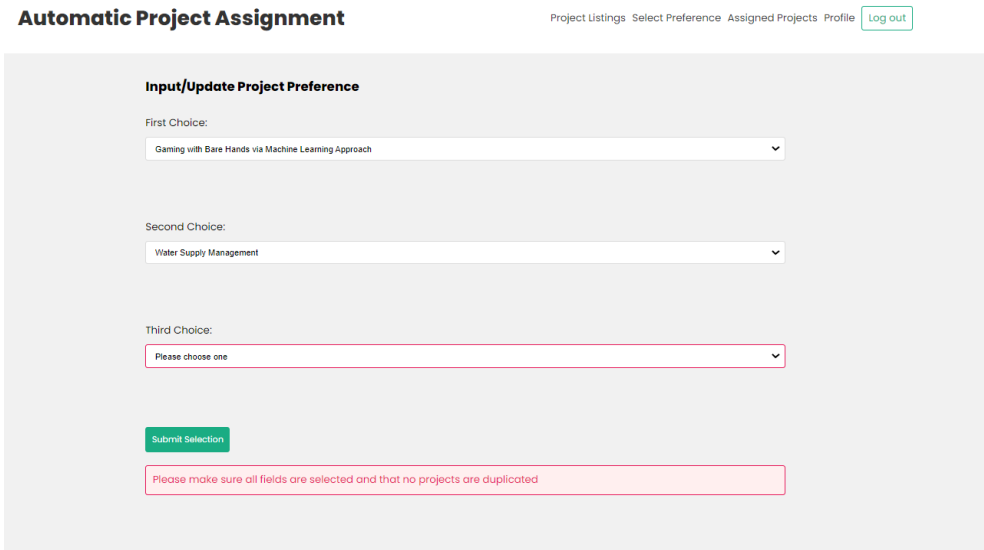
3-10 Change and reset password as Employee	
Pre-Condition	Employee must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “Change Password” on the left navigation bar 3. Enter Necessary Details as specified 4. Click on the “Submit” button
Expected Result	Password is changed successfully and the message “Password

	changed successfully!” is displayed
Actual Result	Password is changed and the message is displayed 
Pass / Fail	Pass
Observation (if any)	-

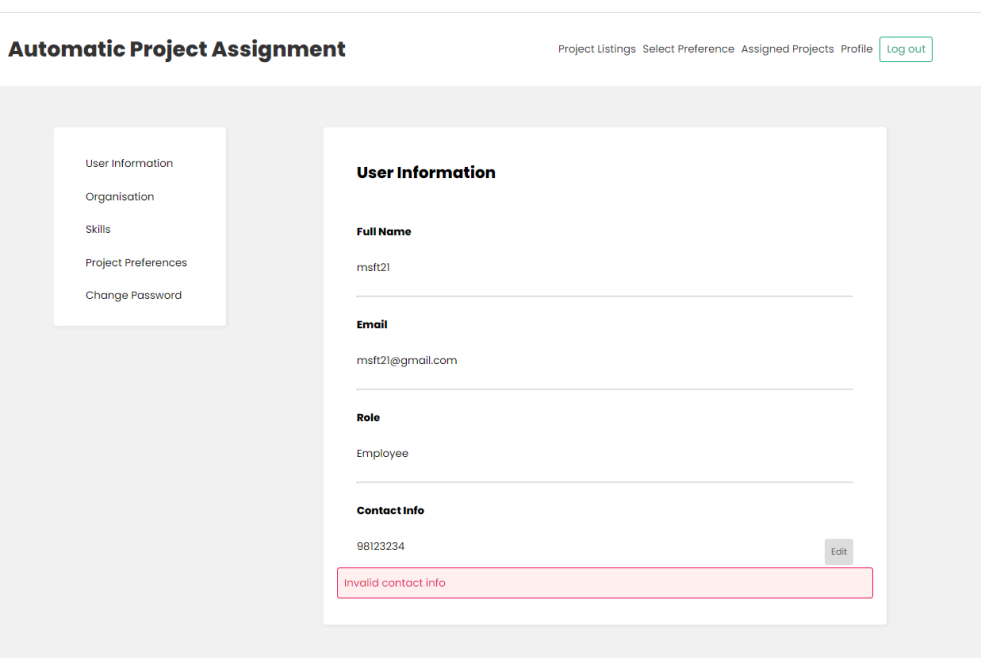
3-11 View Organisation as Employee	
Pre-Condition	Employee must be logged into their account
Actions	1. Click on “Profile” on the navigation bar 2. Click on “Organisation” on the left navigation bar
Expected Result	Organisation that the Employee belongs to will be displayed
Actual Result	Organisation that the Employee belongs to is displayed 
Pass / Fail	Pass
Observation (if any)	-

3-12 View Project Preferences as Employee	
Pre-Condition	Employee must be logged into their account Employee must have already submitted their project preferences
Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “Project Preferences” on the left navigation bar
Expected Result	Employee’s submitted project preferences will be displayed
Actual Result	<p>Employee’s submitted project preferences is displayed</p> 
Pass / Fail	Pass
Observation (if any)	-

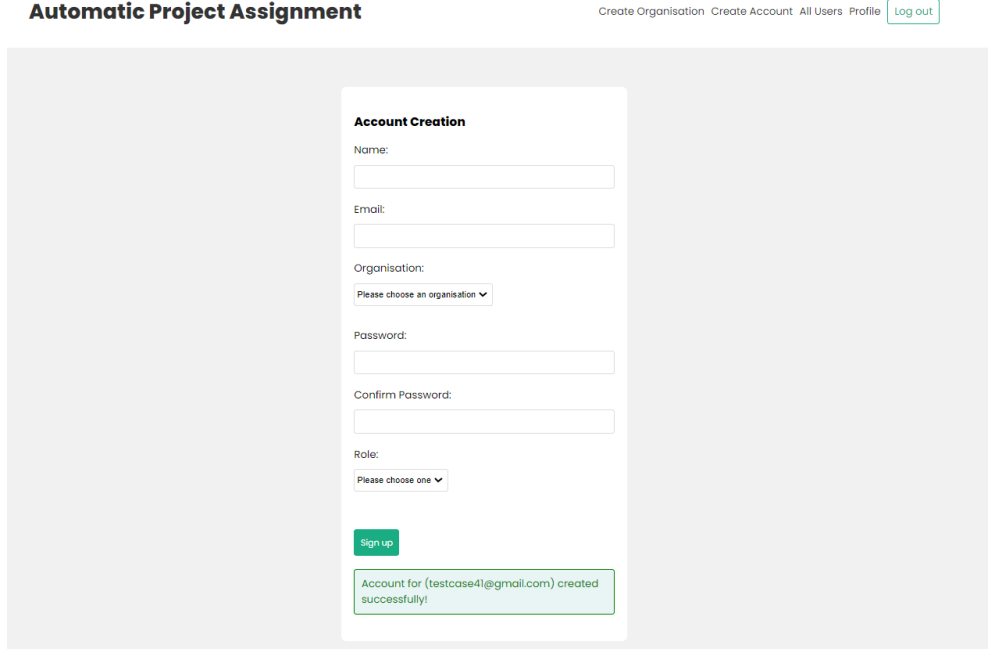
3-13 Invalid Input/Update Project Preference	
Pre-Condition	Employee must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Select Preferences” on the navigation bar 2. Leave a choice blank 3. Click on the “Submit” button
Expected Result	Employee’s project preference isn’t saved and the message “Please make sure all fields are selected and that no projects are duplicated” should be displayed

Actual Result	<p>Employee's project preference isn't saved and the message "Please make sure all fields are selected and that no projects are duplicated" is displayed</p> 
Pass / Fail	Pass
Observation (if any)	-

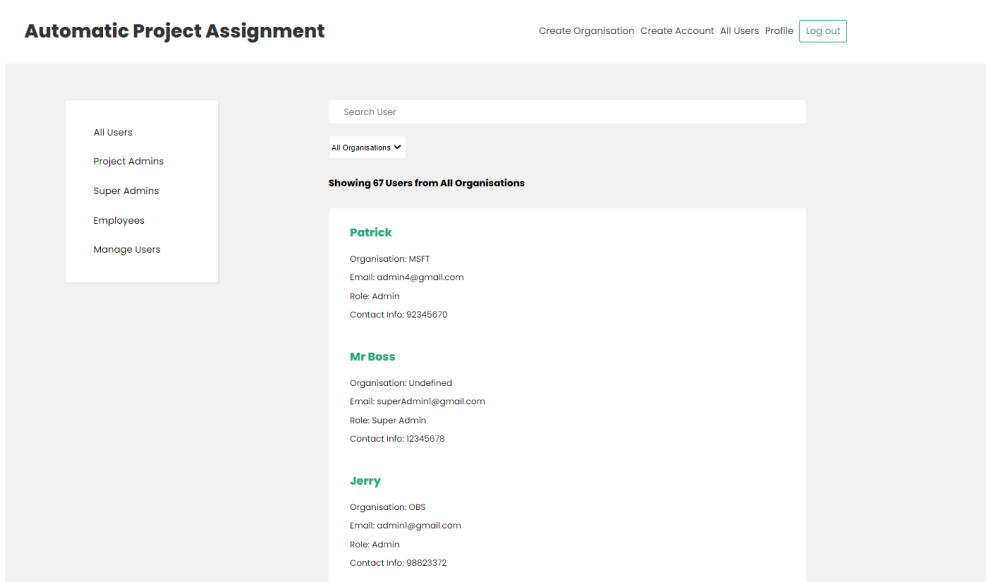
3-14 Invalid Input of Contact Info	
Pre-Condition	Employee must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on "Profile" on the navigation bar 2. Click on "User Information" on the left navigation bar 3. Click on the "Edit" button beside contact info 4. Input Invalid Contact Info 5. Click on the "Submit" button
Expected Result	Contact Info remains unchanged and the message "Invalid Contact Info" should be displayed
Actual Result	Contact Info remains unchanged and the message "Invalid Contact Info" is displayed

	
Pass / Fail	Pass
Observation (if any)	-

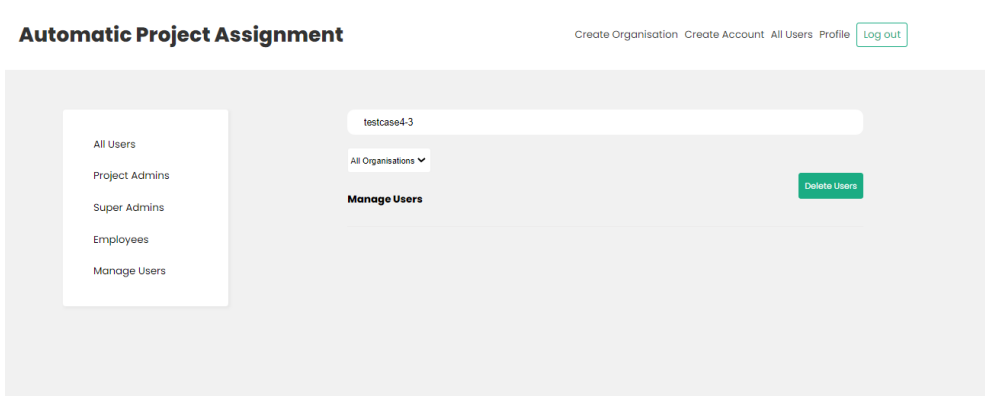
6.4 Super Admin

4-1 Create user account as Super Admin	
Pre-Condition	Super Admin must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Create Account” on the navigation bar 2. Enter the necessary details as specified on the “Create Account” page. 3. Click on the “Sign Up” button
Expected Result	“Account for (testcase41@gmail.com) created successfully !” message is shown at the bottom of the page.
Actual Result	<p>“Account for (testcase41@gmail.com) created successfully !” message is shown.</p> 
Pass / Fail	Pass
Observation (if any)	-

4-2 View user account as Super Admin	
Pre-Condition	1. Super Admin must be logged into their account

	2. There must be existing user accounts within the system
Actions	Click on “All Users” on the navigation bar
Expected Result	“All Users” Page will be displayed indicating the total number of users and different search parameters for more specific searches
Actual Result	<p>All Users” Page is displayed</p>  <p>The screenshot shows the 'Automatic Project Assignment' web application. On the left is a navigation menu with options: All Users, Project Admins, Super Admins, Employees, and Manage Users. The main content area shows a search bar, a dropdown for 'All Organisations', and a message 'Showing 67 Users from All Organisations'. Below this, three user profiles are listed: Patrick (Organisation: MSFT, Email: admin4@gmail.com, Role: Admin, Contact info: 92345670), Mr Boss (Organisation: Undefined, Email: superAdmin@gmail.com, Role: Super Admin, Contact info: 12345678), and Jerry (Organisation: OBS, Email: admin@gmail.com, Role: Admin, Contact info: 98823372).</p>
Pass / Fail	Pass
Observation (if any)	-

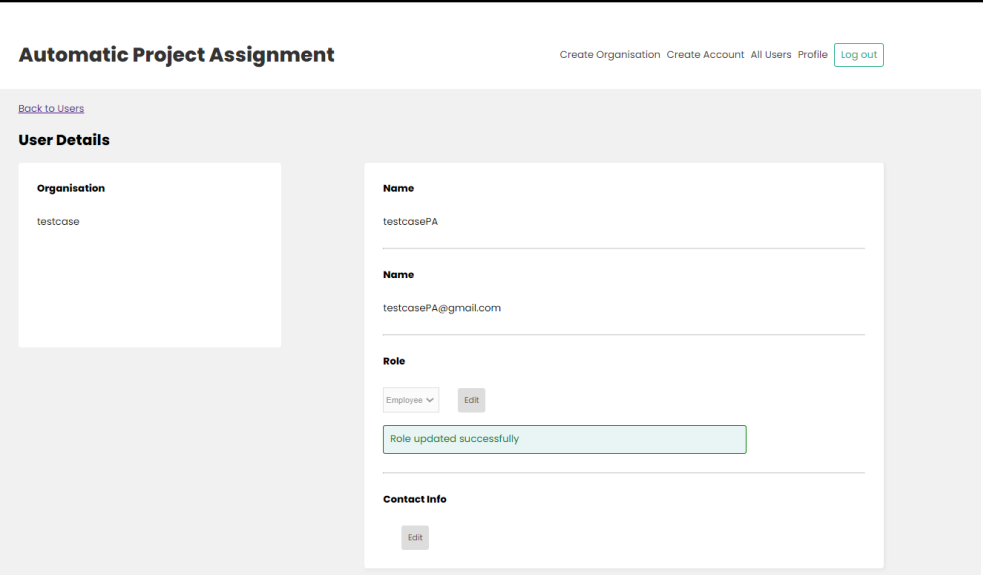
4-3 Delete user account as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<p><u>Multiple Deletion</u></p> <ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Click on “Manage Users” on the left navigation bar 3. Search Up User Accounts you wish to delete on the search bar 4. Click on Empty Check Box to indicate the account you wish to delete 5. Click On the “Delete Users” button

	<u>Single Deletion</u> <ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Click on “Manage Users” on the left navigation bar 3. Search Up User Account you wish to delete on the search bar 4. Click on the Trash Bin Icon beside the account you wish to delete
Expected Result	Account deleted should not appear when searched on the “All Users” Page
Actual Result	<p>Account deleted did not appear when searched</p> 
Pass / Fail	Pass
Observation (if any)	-

4-4 Create Organisation codes as Super Admin	
Pre-Condition	Super Admin must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Create Organisation” on the navigation bar 2. Enter the necessary details as specified on the “Create Account” page. 3. Click on the “Add New Organisation Listing” button
Expected Result	Clicking on the “Create Employee/Project Admin Account for ___” button will allow you to create accounts for a certain organisation.
Actual Result	Account creation will show organisation code

	<div> <div>Automatic Project Assignment</div> <div>Create Organisation Create Account All Users Profile Log out</div> <div> <div>Account Creation</div> <div>Organisation: testcase</div> <div>Name:</div> <div></div> <div>Email:</div> <div></div> <div>Organisation:</div> <div>testcase</div> <div>Password:</div> <div></div> <div>Confirm Password:</div> <div></div> <div>Role:</div> <div>Please choose one</div> <div>Sign up</div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

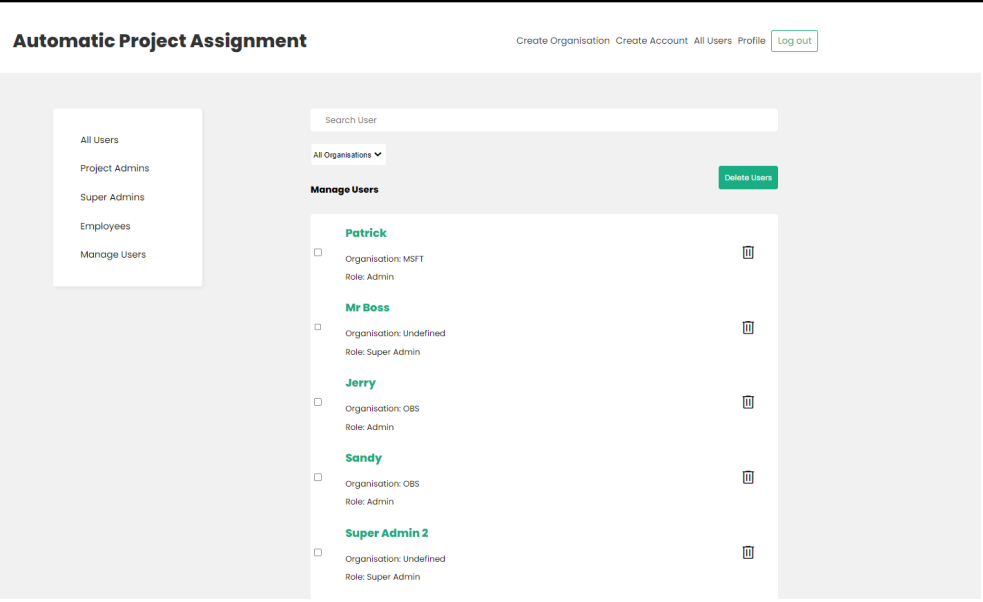
4-5 Edit user role as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Search the user account you wish to edit on the search bar 3. Click on the intended user account 4. Click on the “Edit” button beside role 5. Change User Role using drop-down list 6. Click on the “Submit” button
Expected Result	User account role should be changed after editing and the message “Role updated successfully” should be displayed
Actual Result	User account role is successfully changed and a message is displayed

	 <p>Automatic Project Assignment Create Organisation Create Account All Users Profile Log out</p> <p>Back to Users</p> <p>User Details</p> <p>Organisation testcase</p> <p>Name testcasePA</p> <p>Name testcasePA@gmail.com</p> <p>Role Employee Edit</p> <p>Role updated successfully</p> <p>Contact Info Edit</p>
Pass / Fail	Pass
Observation (if any)	-

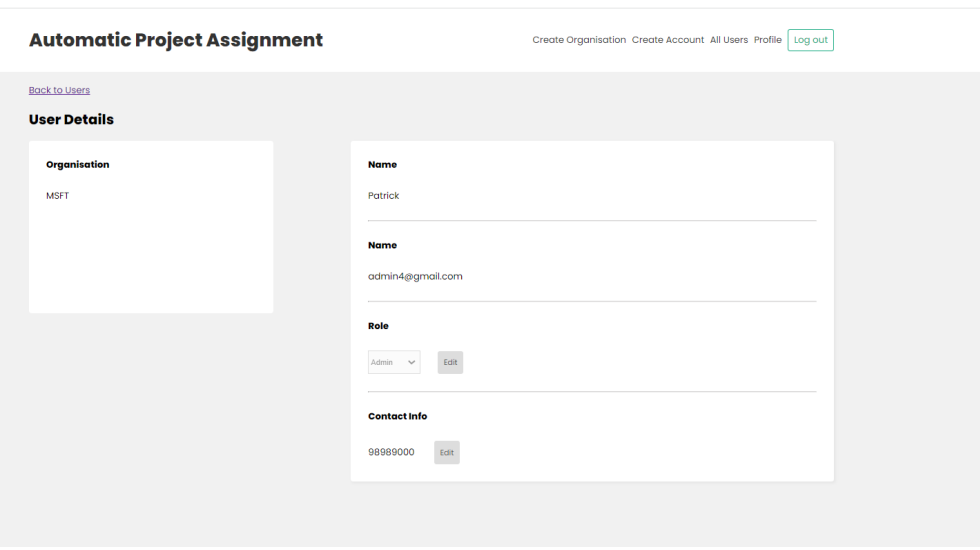
4-6 Edit user account contact info as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Search the user account you wish to edit on the search bar 3. Click on the intended user account 4. Click on the “Edit” button beside contact info 5. Enter contact info on the empty text field 6. Click on the “Save” button
Expected Result	User account contact number should be changed after editing
Actual Result	User account contact number is successfully changed

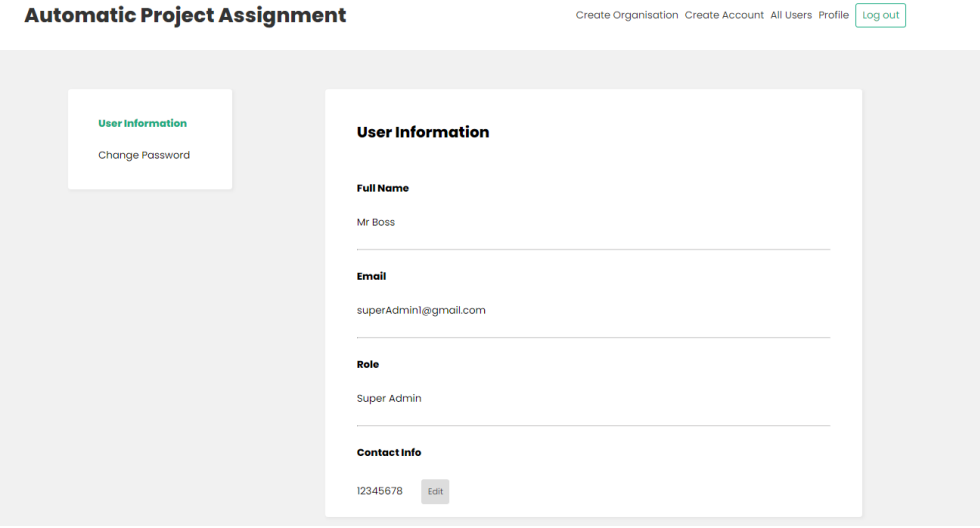
	<div> <div>Automatic Project Assignment</div> <div>Create Organisation Create Account All Users Profile Log out</div> <div> <div>User Information</div> <div>Change Password</div> </div> <div> <div>User Information</div> <div> <div>Full Name</div> <div>Mr Boss</div> </div> <div> <div>Email</div> <div>superAdmin1@gmail.com</div> </div> <div> <div>Role</div> <div>Super Admin</div> </div> <div> <div>Contact Info</div> <div>87654322</div> <div>Edit</div> </div> <div>Contact info updated!</div> </div> </div>
Pass / Fail	Pass
Observation (if any)	-

4-7 Manage users in an Organisation as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Click on “Manage Users” on the left navigation bar
Expected Result	“Manage Users” Page should be successfully displayed
Actual Result	“Manage Users” page is displayed

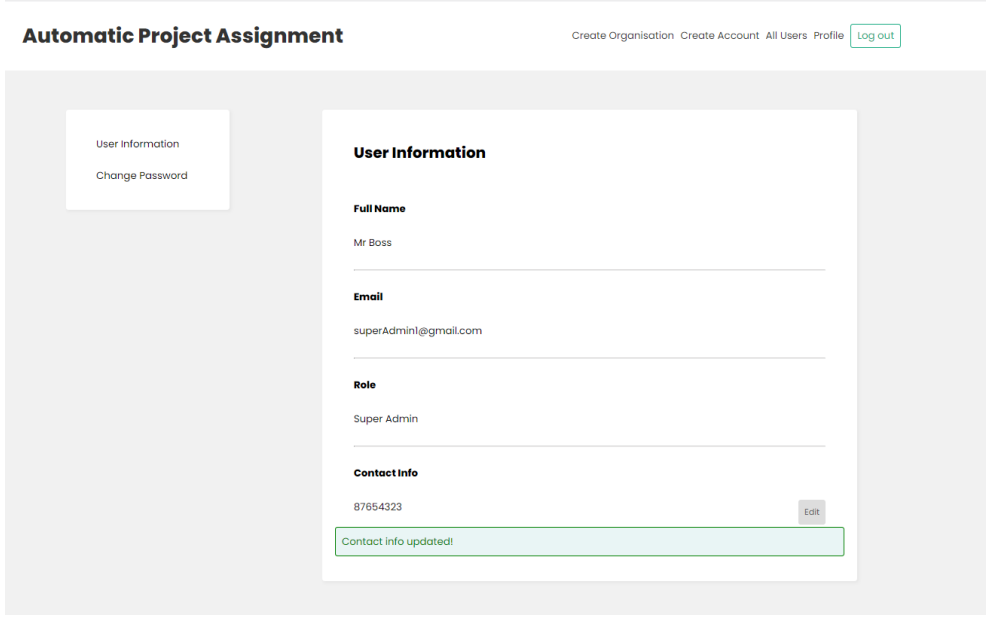
	
Pass / Fail	Pass
Observation (if any)	-

4-8 View User Profile as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Search the user account you wish to view on the search bar 3. Click on the intended user account
Expected Result	Intended user account profile is successfully displayed
Actual Result	User profile is displayed

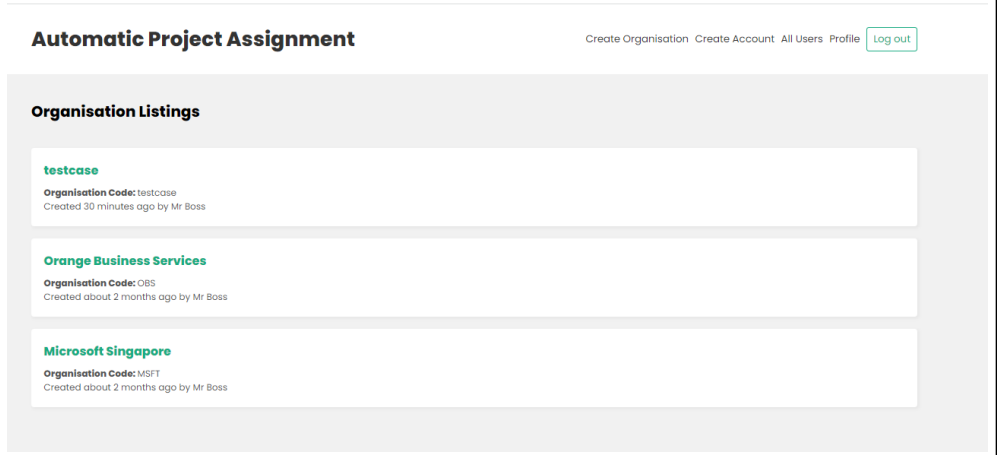
	
Pass / Fail	Pass
Observation (if any)	-

4-9 View Profile as Super Admin	
Pre-Condition	1. Super Admin must be logged into their account
Actions	Click on “Profile” on the navigation bar
Expected Result	Intended user account profile is successfully displayed 
Actual Result	User profile is displayed

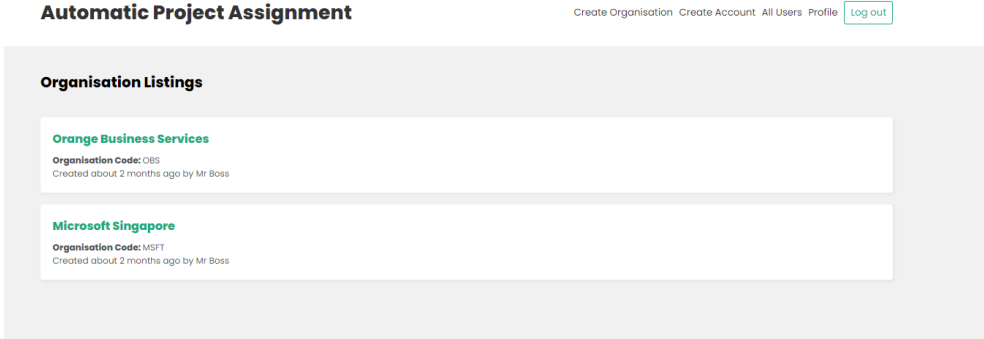
Pass / Fail	Pass
Observation (if any)	-

4-10 Edit Contact Info as Super Admin	
Pre-Condition	Super Admin must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on the “Edit” button beside contact info 3. Enter new contact info on the empty text field 4. Click on the “Submit” button
Expected Result	Contact info is successfully edited and the message “Contact Info Updated!” is displayed
Actual Result	<p>Contact info is changed and a message is successfully displayed</p> 
Pass / Fail	Pass
Observation (if any)	-

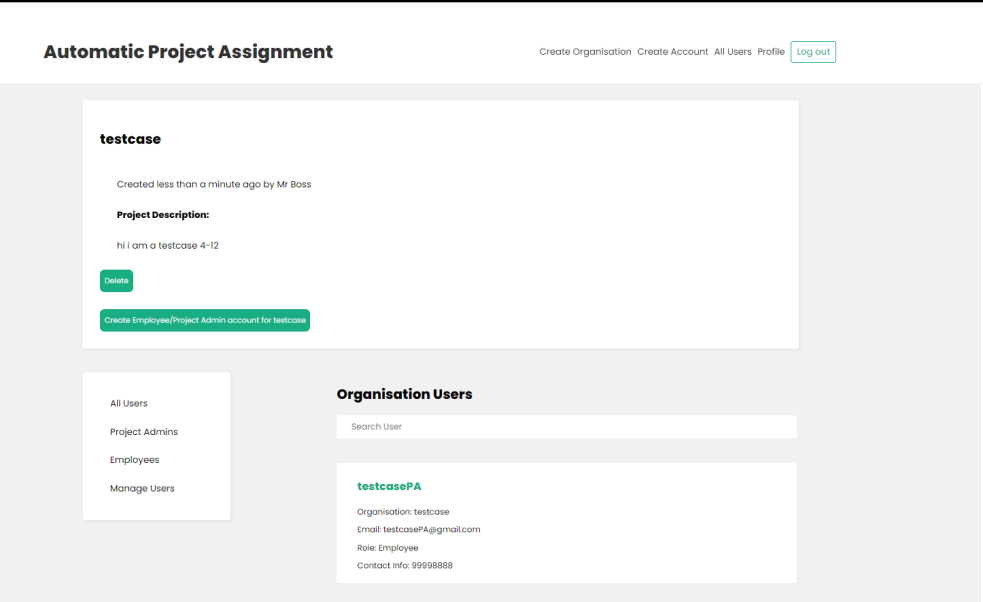
4-11 View Organisation Listing as Super Admin

Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing organisation within the system
Actions	<p><u>User is at home page</u></p> <ol style="list-style-type: none"> 1. No actions needed <p><u>User is at not home page</u></p> <ol style="list-style-type: none"> 1. Click on “Automatic Project Assignment” on the navigation bar
Expected Result	Existing organisation should be displayed on the home page under Organisation Listings
Actual Result	<p>Existing Organisation listings is displayed</p> 
Pass / Fail	Pass
Observation (if any)	-

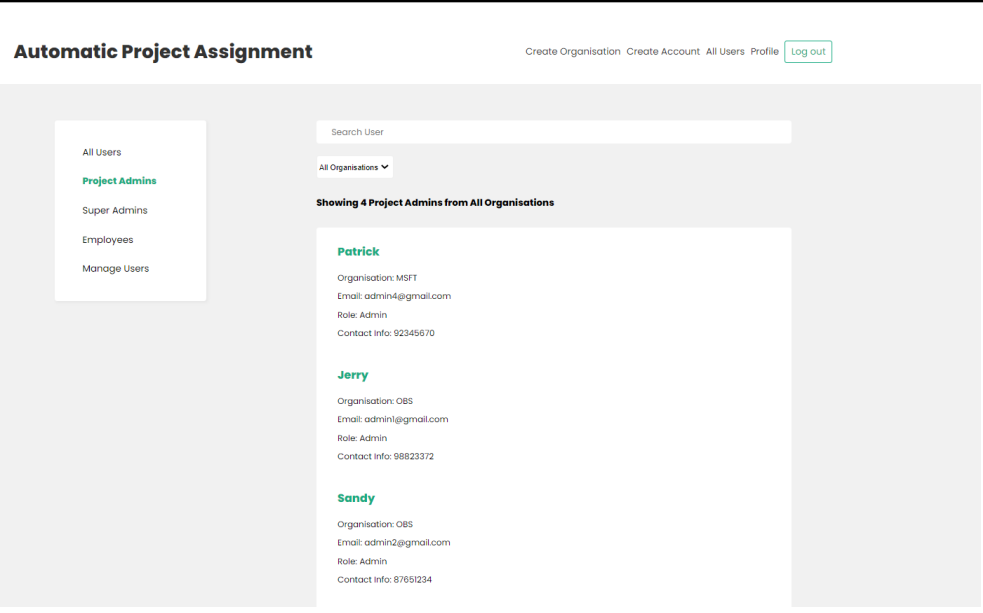
4-12 Delete Organisation Listing as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing organisation within the system
Actions	<p><u>User is at home page</u></p> <ol style="list-style-type: none"> 1. Click on the intended organisation listing 2. Click on the “Delete” button <p><u>User is at not home page</u></p> <ol style="list-style-type: none"> 1. Click on “Automatic Project Assignment” on the navigation

	bar 2. Click on the intended organisation listing 3. Click on the “Delete” button
Expected Result	Deleted organisation should not appear on the main page
Actual Result	Deleted organisation did not appear on the main page 
Pass / Fail	Pass
Observation (if any)	-

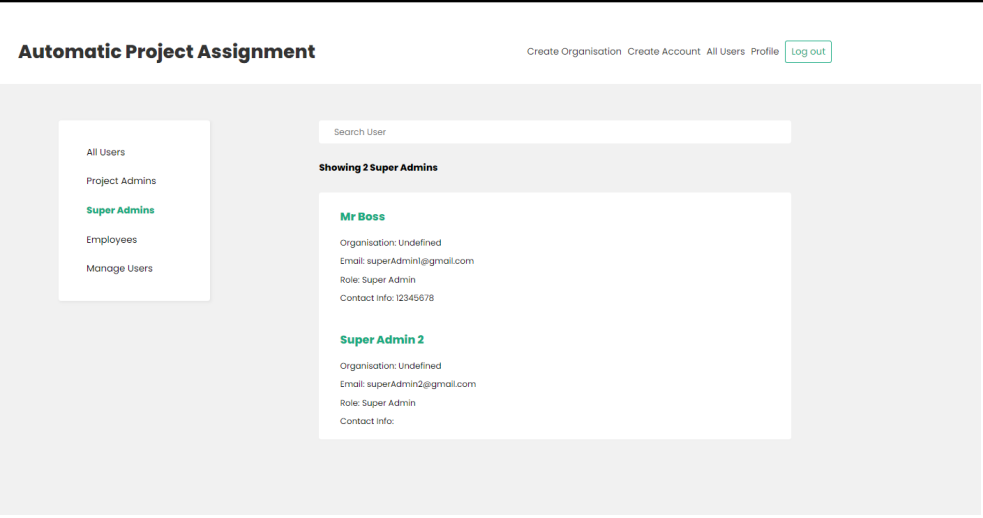
4-13 View Organisation Details as Super Admin	
Pre-Condition	1. Super Admin must be logged into their account 2. There must be existing organisation within the system
Actions	<u>User is at home page</u> 1. Click on the intended organisation listing <u>User is not at home page</u> 1. Click on “Automatic Project Assignment” on the navigation bar 2. Click on the intended organisation listing
Expected Result	Selected Organisation Details will be displayed
Actual Result	Selected Organisation Details is be displayed

	
Pass / Fail	Pass
Observation (if any)	-

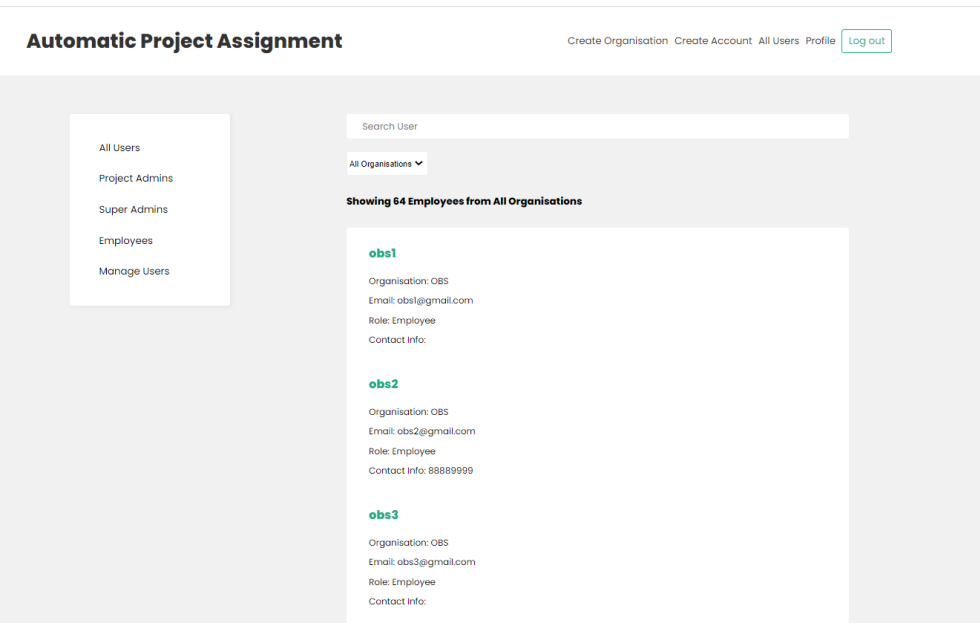
4-14 Filter User Accounts by Project Admin as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Click on “Project Admins” on the left navigation bar
Expected Result	“Showing _ Project Admins from all Organisation” header should appear above the list of existing project admins accounts.
Actual Result	Header appeared and the list of existing project admins is displayed

	
Pass / Fail	Pass
Observation (if any)	-

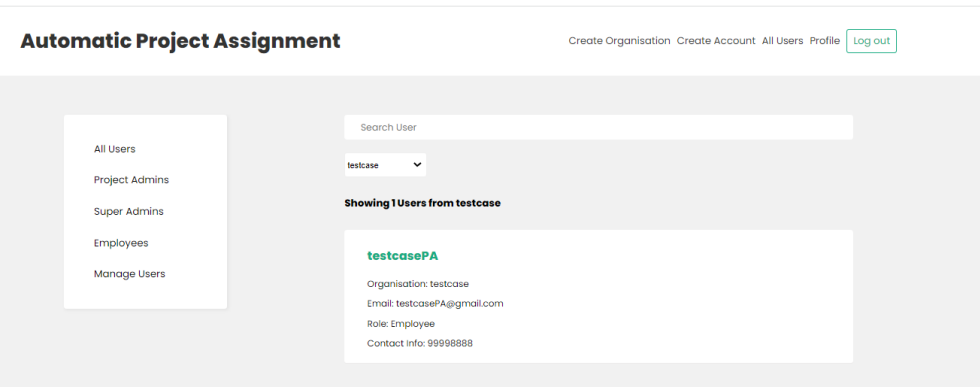
4-15 Filter User Accounts by Super Admin as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Click on “Super Admins” on the left navigation bar
Expected Result	“Showing _ Super Admins” header should appear above the list of existing super admins accounts.
Actual Result	Header appeared and the list of existing super admins is displayed

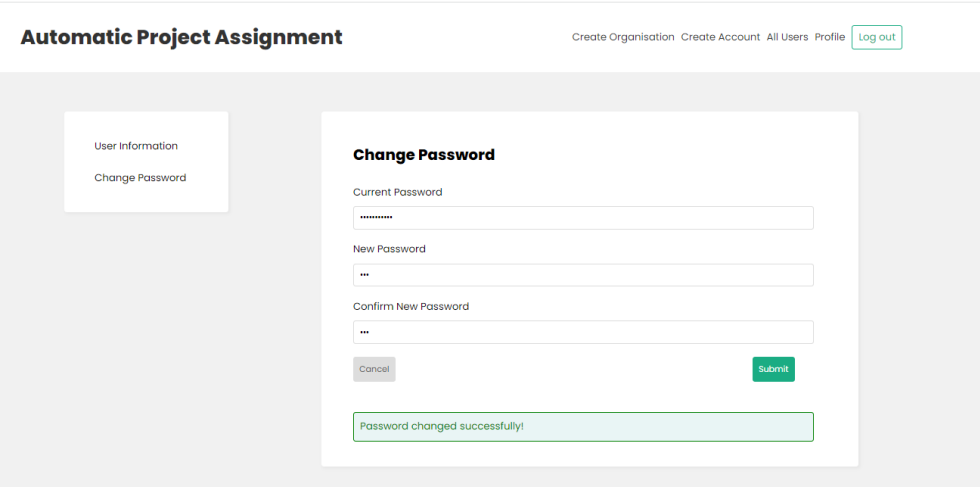
	
Pass / Fail	Pass
Observation (if any)	-

4-16 Filter User Accounts by Employee as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<ol style="list-style-type: none"> 1. Click on “All Users” on navigation bar 2. Click on “Employees” on left navigation bar
Expected Result	“Showing _ Employees from all Organisation” header should appear above the list of existing employee accounts.
Actual Result	Header appeared and list of existing employee is displayed

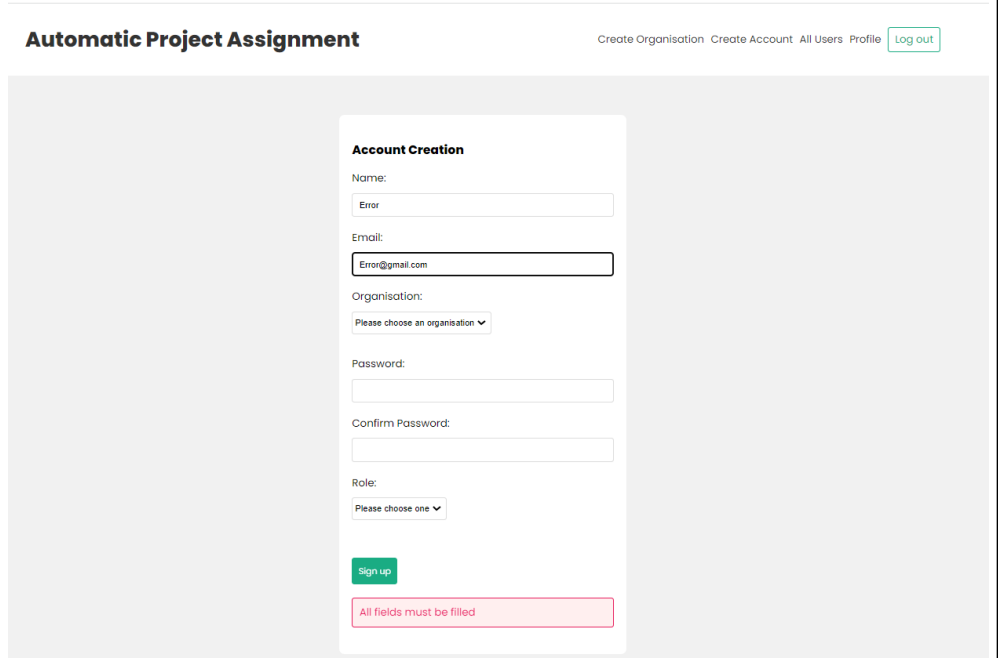
	
Pass / Fail	Pass
Observation (if any)	-

4-17 Filter User Accounts by Organisation as Super Admin	
Pre-Condition	<ol style="list-style-type: none"> 1. Super Admin must be logged into their account 2. There must be existing user accounts within the system
Actions	<ol style="list-style-type: none"> 1. Click on “All Users” on the navigation bar 2. Click on the “All Organisation” drop-down box 3. Select the Organisation you wish to filter by
Expected Result	“Showing _ Users from ____” header should appear above the list of existing employee accounts within the organisation
Actual Result	Header appeared and the list of users from the selected organisation is displayed

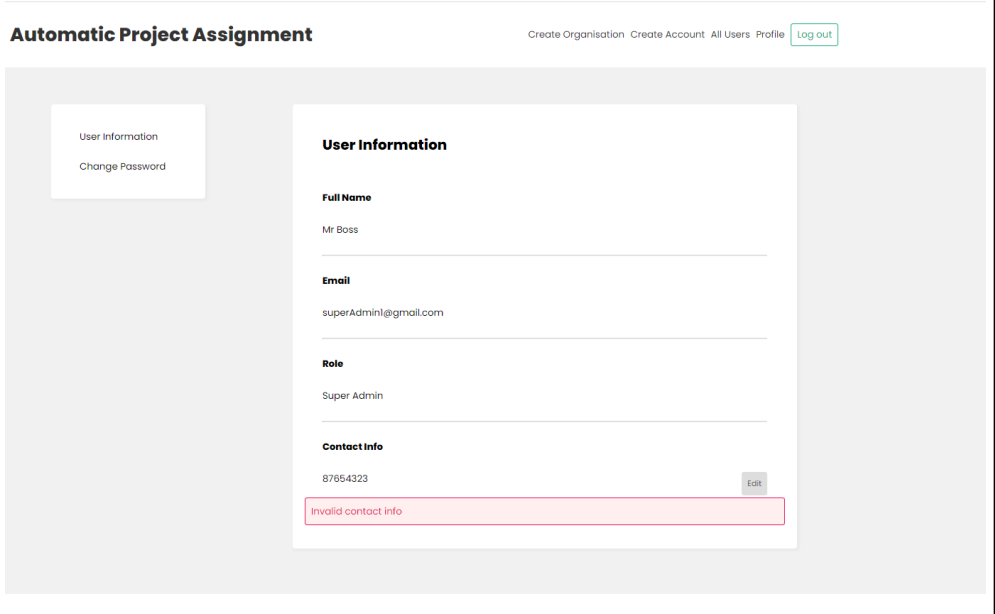
	
Pass / Fail	Pass
Observation (if any)	-

4-18 Change/Reset Password as Super Admin	
Pre-Condition	Super Admin must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “Change Password” on the left navigation bar 3. Enter Necessary Details as specified 4. Click on the “Submit” button
Expected Result	Password is changed successfully and the message “Password changed successfully!” is displayed
Actual Result	Password changed and a message is displayed 

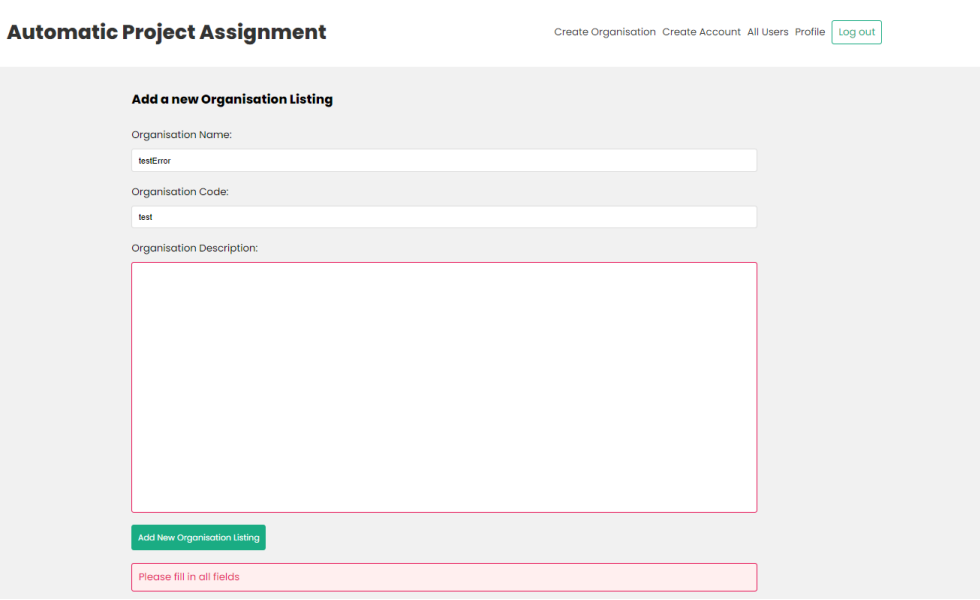
Pass / Fail	Pass
Observation (if any)	-

4-19 Invalid Input Test for Account Creation	
Pre-Condition	Super Admin must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Create Account” on the navigation bar 2. Input Invalid Details 3. Click on the “Sign Up” button
Expected Result	Account is not created and an error message should be displayed
Actual Result	<p>Account is not created and an error message is displayed</p>  <p>The screenshot shows the 'Automatic Project Assignment' web application. At the top right, there are links: 'Create Organisation', 'Create Account', 'All Users', 'Profile', and a 'Log out' button. The main content area displays the 'Account Creation' form. The form has fields for Name, Email, Organisation, Password, Confirm Password, and Role. The Name field contains 'Error', the Email field contains 'Error@gmail.com', and the Organisation field has a dropdown menu with the text 'Please choose an organisation'. The Password and Confirm Password fields are empty. The Role field has a dropdown menu with the text 'Please choose one'. A green 'Sign up' button is at the bottom of the form. A red error message box at the bottom of the form states 'All fields must be filled'.</p>
Pass / Fail	Pass
Observation (if any)	-

4-20 Invalid Input of Contact Info	
Pre-Condition	Super Admin must be logged into their account

Actions	<ol style="list-style-type: none"> 1. Click on “Profile” on the navigation bar 2. Click on “User Information” on the left navigation bar 3. Click on the “Edit” button beside contact info 4. Input Invalid Contact Info 5. Click on “Submit”
Expected Result	Contact Info remains unchanged and the message “Invalid Contact Info” should be displayed
Actual Result	<p>Contact Info remains unchanged and the message “Invalid Contact Info” is displayed</p> 
Pass / Fail	Pass
Observation (if any)	-

4-21 Invalid Input for Organisation creation	
Pre-Condition	Super Admin must be logged into their account
Actions	<ol style="list-style-type: none"> 1. Click on “Create Organisation” on the navigation bar 2. Input Invalid Organisation Details 3. Click on “Add New Organisation Listing”
Expected Result	Organisation is not created and an error message will be displayed

Actual Result	<p>Organisation is not created and an error message is displayed</p>  <p>The screenshot shows the 'Automatic Project Assignment' web application. At the top right, there are links for 'Create Organisation', 'Create Account', 'All Users', 'Profile', and a 'Log out' button. The main heading is 'Add a new Organisation Listing'. Below this, there are three input fields: 'Organisation Name' (containing 'testError'), 'Organisation Code' (containing 'test'), and 'Organisation Description' (empty). At the bottom of the form is a green 'Add New Organisation Listing' button. Below the button is a red error message box that says 'Please fill in all fields'.</p>
Pass / Fail	Pass
Observation (if any)	-

Unit Test

Test Name	Add Super Admin Accounts #1			
Test Requirements	Different types of SA accounts are to be added to system			
Status	Result	Actual	Tested	Message
Pass	2	2	2	-

Test Name	Add Project Admin Accounts #2			
Test Requirements	Different types of PA accounts are to be added to system			
Status	Result	Actual	Tested	Message
Pass	4	4	4	-

Test Name	Add Employee Accounts #3			
Test Requirements	Different types of Employee accounts are to be added to system			
Status	Result	Actual	Tested	Message
Fail	45	50	50	Duplicate Accounts were discovered

Test Name	Add Organisation #4			
Test Requirements	Different types of Organisation are to be added to system			
Status	Result	Actual	Tested	Message
Pass	3	3	3	-

Test Name	Add Organisation Skills #5			
Test	Different types of Organisation skills are to be added to system			

Requirements				
Status	Result	Actual	Tested	Message
Pass	11	11	11	-

Test Name	Add Projects #6			
Test Requirements	Different types of Projects are to be added to system			
Status	Result	Actual	Tested	Message
Pass	30	30	30	-

Test Name	Add Project Assignment #7			
Test Requirements	Different types of Projects Assignment are to be added to system			
Status	Result	Actual	Tested	Message
Pass	5	5	5	-

Test Name	Populating Project Assignment #8			
Test Requirements	Created Project Assignments are to be populated with data required for automation			
Status	Result	Actual	Tested	Message
Pass	5	5	5	-

Test Name	Submit Employee Project Preference #9			
Test Requirements	Employee Preferences are to be submit and stored within system			
Status	Result	Actual	Tested	Message
Pass	30	30	30	-

Test Name	Retrieve Employee Project Preference #10			
Test Requirements	Submitted Employee Preferences are to be retrieved by Admin			
Status	Result	Actual	Tested	Message
Fail	20	30	30	Certain Projects weren't retrieved due to inactive status

Test Name	View Profile #11			
Test Requirements	User is able to view his/her own profile			
Status	Result	Actual	Tested	Message
Pass	16	16	16	-

Test Name	Edit Profile (Super Admin) #12			
Test Requirements	Super Admin is able to edit his/her own profile			
Status	Result	Actual	Tested	Message
Pass	2	2	2	-

Test Name	Edit Profile (Project Admin) #13			
Test Requirements	Project Admin is able to edit his/her own profile			
Status	Result	Actual	Tested	Message
Pass	4	4	4	-

Test Name	Edit Profile (Employee) #14			
-----------	-----------------------------	--	--	--

Test Requirements	Employee is able to edit his/her own profile			
Status	Result	Actual	Tested	Message
Pass	25	25	25	-

Test Name	Edit Skills (Employee) #15			
Test Requirements	Employee is able to edit his/her skills and competencies			
Status	Result	Actual	Tested	Message
Pass	25	25	25	-

Test Name	Send Reset Password Email #16			
Test Requirements	Request Password Email is successfully received by requester			
Status	Result	Actual	Tested	Message
Pass	5	5	5	-

Test Name	Reset Password #17			
Test Requirements	Password can be successfully resetted			
Status	Result	Actual	Tested	Message
Pass	5	5	5	-

Test Name	Process Automatic Assignment #18			
Test Requirements	Project Admin is able to process automatic assignment			
Status	Result	Actual	Tested	Message
Fail	1	3	3	Application occasionally crashes when

				process is started
--	--	--	--	--------------------

Test Name	Retrieve Assignment Result #19			
Test Requirements	Project Admin is able to successfully retrieve assignment result			
Status	Result	Actual	Tested	Message
Pass	3	3	3	-

Test Name	View Assignment Result #20			
Test Requirements	Employee is able to successfully view assignment result			
Status	Result	Actual	Tested	Message
Pass	25	25	25	-

Test Name	View Project Listing #21			
Test Requirements	Employees and Project Admins are able to view existing project listing and their details			
Status	Result	Actual	Tested	Message
Pass	10	10	10	-

Test Name	View Organisation #22			
Test Requirements	Super Admins are able to view existing organisation and their details			
Status	Result	Actual	Tested	Message
Pass	3	3	3	-

Test Name	Show Password #23			
-----------	-------------------	--	--	--

Test Requirements	Users are able to view their password unencrypted			
Status	Result	Actual	Tested	Message
Pass	5	5	5	-

Test Name	Test Invalid Login #24			
Test Requirements	Users are not able to login into system with invalid credentials			
Status	Result	Actual	Tested	Message
Pass	10	10	10	-

Test Name	Test Login #25			
Test Requirements	Users are able to login into system			
Status	Result	Actual	Tested	Message
Pass	10	10	10	-

Test Name	Test Logout #26			
Test Requirements	Users are able to logout of the system			
Status	Result	Actual	Tested	Message
Pass	10	10	10	-

Integration Test

Test ID	Objective	Description	Expected Results	Outcome
1	Checking the interface between login page and user's home page	User to enter login details and click on login	User successfully logins	Pass
2	Checking the interface between home page and user's profile page	User to click on profile on the navigation bar	User's profile is successfully displayed	Pass
3	Checking the link between all users page and create account module	User to search up newly created account name via search bar on All users page	The newly created account should appear alongside its details	Pass
4	Checking the link between the all users page and the delete employee module	User to click on the trash bin icon beside user account on the manage employee page	Account selected should be deleted and does not show up	Pass
5	Checking the link between the add a new skill module and employee edit skills module	Click on Add Skills after entering new skills as Project Admin	Newly created skills should appear as an option for employees to select	Pass
6	Checking the link between the add a new skill module and create project module	Click on Add Skills after entering new skills as Project Admin	Newly created skills should appear as an option for project admins to select when creating new project	Pass
7	Checking the link between create project module and project listing module	Click on Add new project listing after entering necessary details on create project page as Project Admin	Newly created projects should appear on employee and project admins main page as a project listing	Pass
8	Checking the link between process automatic assignment module and view	Click on Process Automatic Assignment button as Project Admin	Statistics pertaining to the assignment should appear under the view statistics option.	Pass

	statistics module			
9	Checking the link between process automatic assignment module and assigned projects page	Click on Assigned projects as Employee	Assigned projects after process automatic assignment is displayed	Pass
10	Checking the link between select preference module and project preference module	Click on project preference option under profile page as an Employee	Employee submitted project preference is displayed	Pass
11	Checking the link between select preference module and process automatic assignment module	Click on assigned projects option as an Employee	Employee's assigned project will be displayed according to his preferences unless he/she is underqualified	Pass
12	Checking the link between create organisation module and organisation module	Click on add new organisation listing and enter necessary details as a super admin	User's affiliated organisation code is displayed under organisation option in profile page	Pass
13	Checking the link between creating organisation module and super admin main page	Click on add new organisation listing and enter necessary details as a super admin	Newly created organisation should appear as organisation listing at super admin main page	Pass
14	Check the interface between homepage and logout button	User to click on log out	Account is logged out and User is redirected to login page	Pass
15	Checking the interface between the main login page and the forgot password page	User to click on forgot password	Forgot password page is displayed	Pass

User Acceptance Test

UAT Acceptance Test	
1. UAT Scope	
UAT - In Scope	UAT - Out of Scope
Login/Logout	CI/CD Framework
User Accounts Management	Multilingual Support
Organisation Listing Management	Kanban Boards
Project Listing Management	Chatbots
Skills & Competencies Management	Task and Resource Management
Project Choice Management	Real-time calendar tracking (e.g Gantt Chart Software)
Automatic Project Assignment	Virtual Project Meeting
Password Management	Organisation Community Forums and Messenger

UAT Assumptions	
Test Environment	Test cases are conducted by lead tester and tester; and will be reviewed by the project lead when completed
Test Documentation	All test cases are documented within the shared Google Drive Project folder
Error Reporting	Errors, failures and bugs will be highlighted and screenshotted and uploaded to a common discord channel

UAT Constraints	
Constraints	Resources
Deadline : Testing must be completed by 14th February 2023	Human Resources : 2 to 3 Testers available through the entirety of this FYP
-	Available Hardware : Samsung Phone iMac Aftershock PC
-	Tested Operating systems : Android 12 Windows 10 ,11 macOS Ventura
-	Browser Tests : Firefox Chrome Edge Opera Safari

UAT Risks			
Description	Probability	Impact	Mitigation
Incomplete test environment due to time constraints	Low	Med	Realistic time management and proper workload delegation
Testers are not aware on how to report bugs/errors	Low	High	Establishing proper communication channels and good team communication
Testers are not properly trained	Med	Low	Refresh memory by doing research and reflecting on previous semester's test cases
UAT test failure	Low	High	UAT testing to start after development

			completes
--	--	--	-----------

Traceability Matrix

Test Scenario	Test Case ID	Unit Test ID	Integration Test ID
4.1 Test Login Functionality	1-1 to 1-9	#24,#25,#26	#1,#14
4.2 Test Project Admin Features	2-1 to 2-18	#3,#5,#6,#7,#8,#10,#11, #13,#16,#17,#18,#19,# 20,#21,#23	#2,#3,#4,#5,#6,#7,#8,# 15
4.3 Test Employee Features	3-1 to 3-14	#9,#11,#14,#15,#16,#1 7,#20,#21,#23	#2,#5,#6,#7,#9,#10,#11
4.4 Test Super Admin Features	4-1 to 4-21	#1,#2,#3,#4,#11,#12,#1 6,#17,#22,#23	#2,#3,#4,#12,#13

Conclusion

Throughout the entire testing phase , the application has been thoroughly tested and any issues/bugs faced has been resolved before the development phase.

From this, we can ensure that all requirements are tested and that our clients will face no issues when using our application.

References

Hamilton, T. (2022) Integration testing: What is, types with example, Guru99. Available at: <https://www.guru99.com/integration-testing.html> (Accessed: February 10, 2023).

QStudio - Qunit - unit testing framework for KDB. Available at: <https://www.timestored.com/qstudio/help/qunit> (Accessed: February 10, 2023).

Setter, M. (2022) User acceptance testing: What is it, and how to do it right in 2022?, Usersnap blog - the #1 customer feedback software. Available at: <https://usersnap.com/blog/user-acceptance-testing-right/> (Accessed: February 10, 2023).