

# Group 17: Task management system online

The aim here is to create an online task management system. This system shall allow users to create, manage, and track tasks and projects. Users can create individual tasks, organize them into projects, set priorities and deadlines, assign tasks to team members, and monitor task progress throughout the completion of the project.

## Test Cases

### Account Creation

#### **Valid account creation**

- Objective: Verify that users can successfully register for an account if their username does not exist in the database
- Arrange: Open account sign up page
- Act: Fill in valid user details (username, password) and press "Register" button
- Assert: Check that the user has been registered and redirected to the login page with a success message.

#### **Invalid account creation - user already exists**

- Objective: Verify that users cannot register for an account if their username already exists in the database.
- Arrange: Open account sign up page.
- Act: Input invalid user details (username which already exists) and press the "Register" button.
- Assert: Check that the user was not registered and redirected to the registration page with a "username already exists" message.

#### **Invalid account creation - user did not input a username**

- Objective: Verify that users cannot register for an account if they do not input a username.
- Arrange: Open the registration page.
- Act: Fill in password and click the "Register" button.
- Assert: Check that the user was not registered and redirected to the registration page with a "input username" message.

#### **Invalid account creation - user did not input a password**

- Objective: Verify that users cannot register for an account if they do not input a password.
- Arrange: Open the registration page.
- Act: Fill in a unique username and click the "Register" button.
- Assert: Check that the user was not registered and redirected to the registration page with a "need password" message.

#### **Invalid account creation - special characters**

- Objective: Verify that users cannot register for an account with username and/or password containing special characters.

- Arrange: Open the registration page.
- Act: Fill in an invalid username or password and click the "Register" button.
- Assert: Check that the user was not registered and redirected to the registration page with a "invalid username or password - no special characters allowed" message.

## User Login

### Valid login details

- Objective: To verify that users can login to their account with correct username and password
- Arrange: Open the login page.
- Act: Fill in valid username and password pair and click the "Login" button.
- Assert: Check that the user exists and redirect them to their home page view of their tasks and projects.

### Invalid login details

- Objective: To verify that users cannot login to their account with incorrect username and password
- Arrange: Open the login page.
- Act: Fill in incorrect username and password pair and click the "Login" button.
- Assert: Check that the user does not exist and redirect them to the login page with a "username or password is incorrect" message.

## Project interactions

### Create Project

- Objective: Verify that the user can successfully create a project.
- Arrange: Log in to the system, press "Create New Project"
- Act: Fill in valid project details (Project name, description) and press the "Create Project" button.
- Assert: Check that the project details are correct and redirect user to the project management page (each project has its own project management page).

### Delete Project (only allowed if user is project creator)

- Objective: Verify that the project owner can successfully delete a project.
- Arrange: Log in to the system and navigate to a project management page, Press "Delete Project" button.
- Act: Type in the project name to verify that this is the project to be deleted, then press "Confirm Delete Project"
- Assert: Project is properly deleted from database.

### Invite Member to Project

- Objective: To verify that users can invite others to join a project.
- Arrange: Log in to the system and navigate to a project management page.
- Act: Click the "Invite Member" button, enter the username of the member to invite, and press "Send".
- Assert: Check that the invited member receives an invitation and can join the project

upon acceptance.

#### **Invite Invalid Member to Project**

- Objective: To verify that the system handles invalid member invitations appropriately.
- Arrange: Log in to the system and navigate to a project management page.
- Act: Click the "Invite Member" button and enter an invalid username, then press "Send".
- Assert: Check that the system provides an error message indicating that the invitation was not sent to an invalid user.

#### **Remove Member from Project (only allowed if user is project creator)**

- Objective: To verify that only project creators can remove members from a project.
- Arrange: Log in to the system as the project creator and navigate to a project management page.
- Act: Select a project member and click the "Remove Member" button.
- Assert: Check that the member is successfully removed from the project.

#### **Change Project Name**

- Objective: To verify that users can change the name of a project.
- Arrange: Log in to the system and navigate to a project management page.
- Act: Click the "Edit Project" button, change the project name, and press "save changes".
- Assert: Check that the project name is successfully updated.

#### **Change Project Description**

- Objective: To verify that users can change the description of a project.
- Arrange: Log in to the system and navigate to a project management page.
- Act: Click the "Edit Project" button, change the project description, and press "save changes".
- Assert: Check that the project description is successfully updated.

### **Task interactions**

#### **Create Individual Task**

- Objective: To verify that users can create individual tasks not associated with any project.
- Arrange: Log in to the system.
- Act: Press the "Create Task" button, fill in task details (e.g., task name, description), make sure the task project is "N/A (Individual)", and click the "Create" button.
- Assert: Check that the individual task is created and listed in the user's task list.

#### **Create Project Task**

- Objective: To verify that users can create tasks within a project.
- Arrange: Log in to the system.
- Act: Press the "Create Task" button, fill in task details (e.g., task name, description), ensuring the project has been selected and click the "Create" button.
- Assert: Check that the project task is created and associated with the project.

#### **Delete Task**

- Objective: To verify that users can delete a task.
- Arrange: Log in to the system and select a task.

- Act: Click the "Edit Task" button then press the "Delete Task" button
- Assert: Check that the task is deleted and removed from the project or user's task list.

### **Change Task Name**

- Objective: To verify that users can change the description of a task.
- Arrange: Log in to the system and navigate to a project or individual task.
- Act: Click the "Edit Task" button, modify the task name, and press "save changes".
- Assert: Check that the task name is successfully updated.

### **Change Task Description**

- Objective: To verify that users can change the description of a task.
- Arrange: Log in to the system and navigate to a project or individual task.
- Act: Click the "Edit Task" button, modify the task description, and press "save changes".
- Assert: Check that the task description is successfully updated.

### **Change Task Priority**

- Objective: To verify that users can change the priority of a task.
- Arrange: Log in to the system and navigate to a project or individual task.
- Act: Click the "Edit Task" button, change the task priority (e.g., 1-7), and press "save changes".
- Assert: Check that the task priority is successfully updated.

### **Change Task Deadline**

- Objective: To verify that users can change the deadline of a task.
- Arrange: Log in to the system and navigate to a project or individual task.
- Act: Click the "Edit Task" button, update the task deadline, and press the "save changes" button.
- Assert: Check that the task deadline is successfully updated.

### **Change Task Status**

- Objective: To verify that users can change the status of a task (e.g., from "In Progress" to "Completed").
- Arrange: Log in to the system and navigate to a project or individual task.
- Act: Click the "Change Status" button, select a new status, and press the "save changes" button.
- Assert: Check that the task status is successfully updated.

### **Add Project Member to Task**

- Objective: To verify that users can assign a project member to a specific task.
- Arrange: Log in to the system and navigate to a project task.
- Act: Click the "Edit Task" button, add project members usernames in "members" field, press "assign to task".
- Assert: Check that the project members are successfully assigned to the task.

### **Add invalid project member to task**

- Objective: To verify that the system handles the addition of an invalid project member to a task appropriately.
- Arrange: Log in to the system and navigate to a project task.
- Act: Click the "Edit Task" button, add invalid members usernames in "members" field, press "assign to task".
- Assert: Check that the system provides an error message indicating that the assignment was not successful due to an invalid member.

### **Remove Project Member from Task**

- Objective: To verify that users can remove a project member from a task.
- Arrange: Log in to the system and navigate to a project task.
- Act: Click the "Edit Task" button, press the "Remove Member" button next to a project member assigned to the task.
- Assert: Check that the project member is successfully removed from the task.

## **Views interaction**

### **See tasks sorted by priority**

- Objective: Verify that a user can see tasks in order of highest priority
- Arrange: Log in to the system and navigate to the tasks view page
- Act: click on "sort by priority" filter option
- Assert: Check that tasks are sorted by highest priority and tasks with the same priority are sorted by deadline

### **See tasks sorted by deadline**

- Objective: Verify that a user can see tasks in order of soonest deadline
- Arrange: Log in to the system and navigate to the tasks view page
- Act: click on "sort by deadline" filter option
- Assert: Check that tasks are sorted by deadline and tasks without set deadlines are at the bottom. Tasks with the same deadline are sorted by priority.

### **See homepage**

- Objective: Verify that users see their projects and tasks without a project on their home page
- Arrange: Go to system website
- Act: Log in to the system
- Assert: Homepage view appears with all projects and all tasks without a project

### **See all tasks inside a project**

- Objective: Verify that a user can see all the tasks inside a project
- Arrange: Log in to the system and navigate to the home page
- Act: Click on a project
- Assert: Check that only tasks for that project are visible, and if there are no tasks, a message says "no projects"

## Input/Output file

Requirement	Test Case Name	Input Data	Expected Output Status	Expected Output Message	Redirect
R1: User Registration	R1T1: Valid account creation	Username: Unicorn Password: hello123	success	N/A	/home
	R1T2: Invalid account creation - user already exists	Username: Unicorn2 Password: cool	unsuccessful	Username already exists	/signup
	R1T3: Invalid account creation - user did not input a username	Username: Password: cool	unsuccessful	Missing username.	/signup
	R1T4: Invalid account creation - user did not input a password	Username: Pony23 Password:	unsuccessful	Missing password.	/signup
	R1T5: Invalid account creation - special characters	Username: ////////////////////////////////// Password: hello123	unsuccessful	Account creation unsuccessful, no special characters allowed in username.	/signup
R2: User Login	R2T1: Valid login details	Username: Unicorn Password: hello123	success	N/A	/home
	R2T2: Invalid login details	Username: Unicorn Password: minecraft8	unsuccessful	Username or password is incorrect.	/login
R3: Project interactions	R3T1: Create Project	Project Name: Work  Project Description: Work Project	success	N/A (Project will be shown on the owners page)	/project_[PROJECTID]
	R3T2: Delete Project (only allowed if user is project creator)	Project Name: Work	success	N/A (Project will be removed from all project members pages)	/home

	R3T3: Invite Member to Project	Username: Unicorn2	success	N/A (The user will be shown on the project page once approved)	N/A
	R3T4: Invite Invalid Member to Project	Username: ////////////////	unsuccessful	User does not exist.	N/A
	R3T5: Remove member from project (only allowed if user is project creator)	Username: Unicorn2	success	N/A (The user will be removed from the project page)	N/A
	R3T6: Change Project Name	New Project Name: NewProject	success	N/A (project will only be viewable with new name)	N/A
	R3T7: Change Project Description	New Project Description: ProjectDesc2	success	N/A (project will only be viewable with new description)	N/A
R4: Task Interactions	R4T1: Create Individual Task	Task Name: Task1  Description: Test Task.  Task Project: N/A (Individual)  Priority: 1  Deadline: 01/01/2024	success	N/A (Task will be viewable on the home page)	N/A
	R4T2: Create Project Task	Task Name: Task2  Description: Test Task 2.  Task Project: Work  Priority: 2  Deadline: 01/02/2024  Task Members:	success	N/A (Task will be viewable on the home page of users within the task, and on the project page for any project member)	N/A

		Unicorn, Unicorn2, Unicorn3			
	R4T3: Delete Task	Task Name: Task1	success	N/A (task will not be accessible anymore on any task members page)	N/A
	R4T4: Change Task Name	New Task Name: NewTask	success	N/A (task will only be viewable with new name)	N/A
	R4T5: Change Task Description	New Task Description: NewDescription	success	N/A (task will only be viewable with new description)	N/A
	R4T6: Change Task Priority	New Task Priority: 6	success	N/A (task will only be viewable with new priority)	N/A
	R4T7: Change Task Deadline	New Task Deadline: 01/05/2024	success	N/A (task will only be viewable with new deadline)	N/A
	R4T8: Change Task Status	New Task Status: Completed	success	N/A (a completed indicator will be viewed on the task)	N/A
	R4T9: Add project member to task	Username: Unicorn5	success	N/A (the new project member will now be viewable under the tasks members)	N/A
	R4T10: Add invalid project member to task	Username: \\\\\\\\\\\\\\\\\\\\\\\	unsuccessful	User is not in project	N/A
	R4T11: Remove project member from task	Username: Unicorn6	success	N/A (the user will not be viewable under the task)	N/A
R5: Views Interactions	R5T1: See tasks sorted by priority	Priority filter radio-button: on	success	N/A	N/A
	R5T2: See tasks sorted by deadline	Deadline filter radio-button: on	success	N/A	N/A
	R5T3: See homepage	N/A	success	N/A	N/A
	R5T4: See all tasks inside a project	N/A	success	N/A	/project_[PROJECTID]