

## **1. Title: TeamSync - Collaborative Project Management Tool**

### **2. Project Statement:**

Create a web app for teams to manage projects with tasks, deadlines, communication channels, and file sharing. Implement real-time updates and notification systems for efficient collaboration.

### **Outcomes:**

1. **All users** can create a new project, specifying its name, description, and relevant details.
2. **All users** can add tasks to projects, including task descriptions, deadlines, and assignees.
3. **All users** can update tasks, such as changing descriptions, updating deadlines, and reassigning tasks.
4. **All users** can delete tasks from projects when they are no longer needed.
5. **All users** can view project details and task lists
6. **All users** can communicate within projects through built-in comment systems.
7. **All users** can share files within projects, ensuring all team members have access to necessary documents.
8. **Admins only** can manage user permissions and roles, ensuring that only authorised users can access and modify sensitive information.
9. **Admins only** can archive or delete projects to maintain organisation and relevance.
10. **All users** can view project progress and task completion statistics to monitor project status and team performance.

### **3. Modules to be implemented**

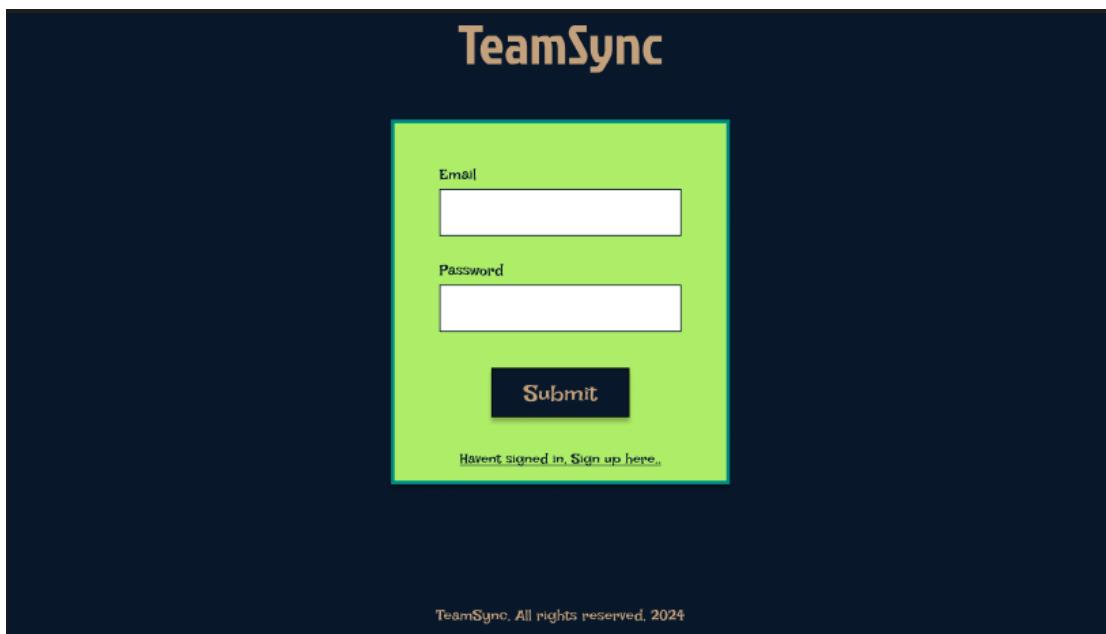
1. Module A: User Management
2. Module B: Project and Task Management
3. Module C: Communication and File Sharing
4. Module D: Reporting and Administration

### **4. Week-wise module implementation and high-level requirements with output screenshots**

## Milestone 1: Weeks 1-2

### Modules A: User Management

- o Implement basic site structure with redirection to /home with dummy data.
- o Implement the static /about route.
- o Implement login and registration flow and all fail scenarios.
- o Allow role-based sign-in for Regular User and Admin, redirecting to role-specific dashboards.
- o Setup database and backend integration to support all functionalities.
- o Setup stubs for Project, Task, Communication, and File Management.
- o Ensure the application is functional with basic navigation.
- o Output screenshot:



# TeamSync

To receive a reset link to your email, enter your email address here.

Your Email:

Submit

[Want to try logging in, click here..](#)

TeamSync. All rights reserved. 2024

# TeamSync

Please confirm your password to proceed with the password reset.

Password

Confirm Password

Reset

[Go back to Sign in..](#)

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# TeamSync

Email

Password

Confirm Password

**Register**

[Already Registered? Sign in here](#)

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# TeamSync

Welcome aboard!

Check your email at  
xxxx@yyy.zzz, follow the  
link to complete your  
registration!

[Already signed up. Sign in here.](#)

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## About Us

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## Projects

## How To Use

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## Tasks

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## Milestone 2: Weeks 3-4

### Module B: Project and Task Management

- o Implement project creation and management functionality.
- o Allow users to add tasks to projects, including descriptions, deadlines, and assignees.
- o Implement CRUD operations for tasks within projects.
- o Setup database schema for projects and tasks.
- o Integrate frontend with backend to support project and task management functionalities.
- o Tagging Code in Version Control
- o Output Screenshots:

# TeamSync

Projects Tasks About Logout

Fra...

Add New 

## Project List

1. Data Analytics for Acme Inc

Analytics for Acme Inc in the domain of operations

3 members, 7 Tasks

Manage

2. Full Stack E-Commerce For Support Inc

Implement E-commerce application for Support Inc

4 members, 9 Tasks

Manage

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# TeamSync

Projects Tasks About Logout

Add New Project

Go Back 

Frame



**Project Details**

**Name** Data Analytics for Acme Inc

**Description** Analytics for Acme Inc in the domain of operations

**Deadline** 25th December 2025

**Notes** Interested in items X, Y and Z

Add 

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**TeamSync**

Projects Tasks About Logout

Manage Project Frame

Go Back ←

**Data Analytics for Acme Inc**

**Update Deadline**  
25th December 2025

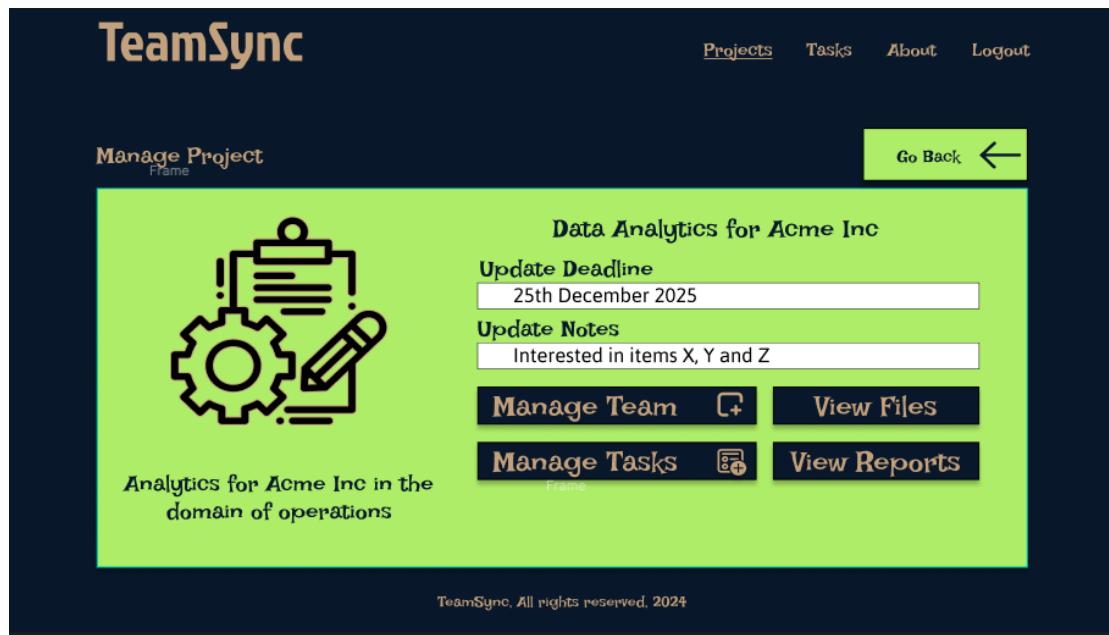
**Update Notes**  
Interested in items X, Y and Z

**Manage Team**  **View Files**

**Manage Tasks**  **View Reports**

Analytics for Acme Inc in the domain of operations

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### Milestone 3: Weeks 5-6

#### Module C: Data Operations and Reporting

- o Implement built-in comment system for project communication.
- o Allow users to share files within projects.
- o Implement file upload and download functionalities.
- o Ensure file sharing is secure and accessible to authorised users only.
- o Setup basic notification system (need not be real-time) for project updates and comments.
- o Integrate communication and file sharing features with existing project and task management functionalities.
- o Tagging code in Version Control.
- o Output Screenshot:

# TeamSync

Projects    Tasks    About    Logout

## Tasks List

1. Data Analytics for Acme Inc

**3 members, 7 Tasks**

2 Allocated to you

Update

2. Full Stack E-Commerce For Support Inc

**4 members, 9 Tasks**

1 Allocated to you

Add Task 

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# TeamSync

Projects    Tasks    About    Logout

## Tasks List

Fra...

Add Task 

Go Back 

1. Data Analytics for Acme Inc [7 tasks, 2 allocated to you]

Create Landing Page

Download

Upload

Complete

Bind Landing Page to Backend

Download

Upload

Complete

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## Milestone 4: Weeks 7-8

### Module D: Performance Optimisation and Administration

- o Implement project progress and task completion reporting
- o Develop interfaces for generating and viewing reports.

- o Implement user and role management functionalities for admins.
- o Allow admins to archive or delete projects.
- o Integrate reporting and administrative features with the overall application.
- o Tagging code in version control.
- o Output Screenshot:

The screenshot shows a web application interface for 'TeamSync'. At the top, there is a navigation bar with links for 'Projects', 'Tasks', 'About', and 'Logout'. Below the navigation bar, the title 'Report: Data Analytics for Acme Inc' is displayed, along with a 'Go Back' button with a left arrow icon. The main content area contains a table with the following data:

Task Name	Creation Date	Uploads	Assigned To	Finish Date
Create Landing Page	23 July 2024	4	John Doe	In Progress
Bind Landing Page to Backend	13 Sept 2024	6	Amar	In Progress
Create Project Stub	31st Dec 2023	1	Akbar	21st Jan 2024
Implement API Login	20 July 2023	2	Anthony	14 Sep 2023

At the bottom of the page, a footer note reads 'TeamSync. All rights reserved. 2024'.

#### Evaluation Criteria:

##### Milestone 1 Evaluation (Week 2):

- o Completion of user authentication and registration.
- o Completion of login after authorisation.
- o Implementation of the static /about route.
- o Code checked into version control.

##### Milestone 2 Evaluation (Week 4):

- o Completion of project creation and management.
- o CRUD operations for tasks within projects.
- o Integration of frontend with backend for project and task management.
- o Code checked into version control.

**Milestone 3 Evaluation (Week 6):**

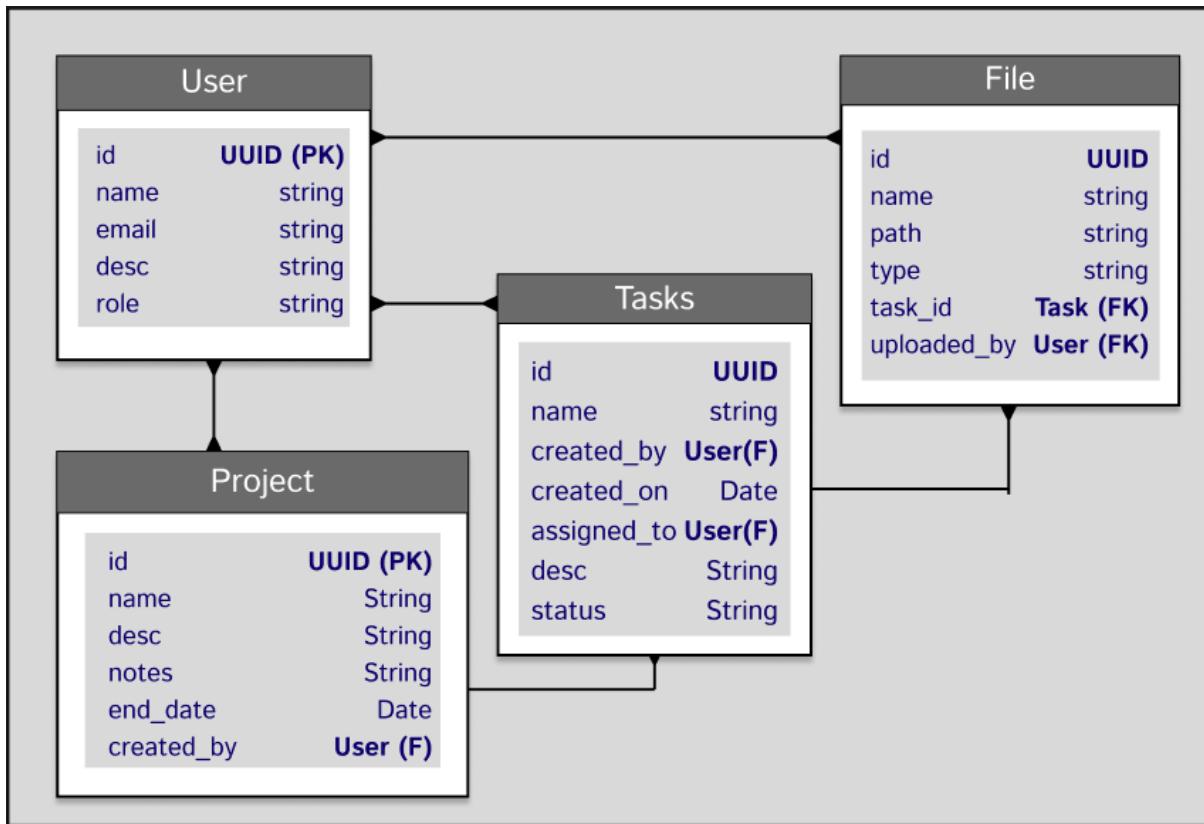
- o Implementation of comment system for project communication.
- o Completion of file sharing functionality within projects.
- o Integration of communication and file sharing features with project management.
- o Code checked into version control.

**Milestone 4 Evaluation (Week 8):**

- o Implementation of project progress and task completion reporting.
- o Completion of user and role management functionalities.
- o Admin capabilities to archive or delete projects.
- o Integration of reporting and administrative features.
- o Tagging code in version control.

**5. Design Diagrams**

Class Diagram: Entity classes



## Class Diagram: Service Interface

auth/ Authentication Service				
/login	POST	{ email: "abc@def.ghi", password: "\$3cre+P@s\$" }	200, 400, 401	
/forgot	POST	{ email: "abc@def.ghi" }	200, 400, 404	
/reset/<token>	GET	{ newPassword: "n3wPa55w0rd" }, Query param: Token	200, 400, 401	
/register	POST	{ email: "abc@def.ghi", password: "\$3cre+P@s\$" ... }	201, 400, 409	
/confirm/<token>	GET	Query param: Token	200, 400, 401	

Project/ Project Service (protected)				
/<:id>	GET	Query Param: project ID	200, 404	
/manage/<:id>	PUT	{ updates or user data }	204, 401, 404	
/	POST	{ name: "ABC", notes: "xxx", description: "xxx" ... }	201, 400	
/	PUT	{ name: "ABC", notes: "xxx", description: "xxx" ... }	200, 400, 404	
/<:id>	DELETE	Query Param: project ID	200, 404	

Tasks/ Tasks Service (protected)				
/<:id>	GET	Query Param: Task ID	200, 404	
/manage/<:id>	PUT	Query Param: Task ID	204, 401, 404	
/	POST	{ name: "xxx", deadline: "24/072024", status: "xxx" }	201, 400	
/	PUT	{ name: "xxx", deadline: "24/072024", status: "xxx" }	200, 400, 404	
/<:id>	DELETE	Query Param: Task ID	200, 404	
/<:id>/document	PUT	Image Data as a param	200, 400, 404	

admin/ Admin Service (protected)				
/users	POST		200, 404	
/users/<:id>	GET	Query Param: User ID	200, 400, 404	
/users/<:id>	DELETE	Query Param: User ID	204, 404, 400	