

# **WorkSphere**

## **Task Management & Team Collaboration Tool**

### **Deliverable #2**

#### **Software Requirements Specification (SRS)**

*A project by*  
**Aura++**



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*Section H*

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# **System Functional Requirements**

The system must support the following functionalities:

## **1. User Management**

- Users must be able to register an account with email and password.
- The system must validate email format and password strength.
- Users must receive a confirmation message upon successful registration.
- Users must be able to log in using their credentials.
- The system must handle incorrect login attempts with proper error messages.
- Users must be able to reset and update their passwords securely.
- The system must allow users to update their profile details (name, email, password).
- The system must support profile picture uploads.

## **2. Project Management**

- Users must be able to create and manage projects with names, descriptions, and settings.
- Project Managers must be able to invite/remove team members.
- The system must provide a project list view with filtering options.
- Project Managers must be able to assign roles (Admin, Member, Guest) to team members.
- The system must enforce role-based access control for project members.

## **3. Task Management**

- Project Managers must be able to create tasks with titles, descriptions, priority, and deadlines.
- Tasks must be assigned to team members.
- Users must be able to update task status (To-Do, In Progress, Done, Blocked).
- The system must allow file attachments to tasks.
- Users must be able to comment on tasks and mention teammates.
- The system must allow tasks to be prioritized (Low, Medium, High).
- The system must support file attachments to tasks.

## **4. Kanban Board**

- The system must provide a Kanban board view for tasks.
- The system must support columns for different task statuses (To-Do, In Progress, Done).
- The system must allow drag-and-drop functionality for moving tasks between columns.
- Tasks must be sortable and filterable by priority, deadline, and assignee.

## **5. Collaboration & Communication**

- Users must be able to comment on tasks.

- The system must send notifications for new comments.
- Users must receive notifications for task updates.
- The system must send reminders for overdue tasks.
- The system must notify project managers of task status changes.

## **6. Task Notifications**

- Users must receive notifications when assigned a task.
- The system must allow project managers to configure notification preferences.
- The system must send alerts for task status changes.

## **7. Activity Logs**

- The system must maintain a log of all task modifications.
- Users must be able to view the history of task changes.
- The system must display details of who updated a task and what changes were made.

## **8. Reports**

- The system must generate reports on task completion rates, overdue tasks, and team productivity
- Reports must be available in graphical format.
- The system must provide a dashboard for visualizing project progress.

## **9. Task Search & Filtering**

- The system must allow users to search for tasks by name or keyword.
- Users must be able to apply filters (assignee, priority, deadline).
- The system must allow multiple filters to be applied simultaneously.

## **10. File Attachments**

- The system must allow users to upload files to tasks.
- The system must support various file formats (PDF, Word, Excel, and images).
- The system must display a list of all attached files within a task.
- The system must allow users to preview and download attached files.

# System Non-Functional Requirements

## 1. Product Requirements

- **Performance:**
  - The system must handle at least 100 concurrent users without lag.
  - Task creation, updates, and status changes should be reflected in under 1 second.
  - Search queries must return results within 2 seconds.
- **Usability:**
  - The system must provide an intuitive UI with drag-and-drop for tasks.
  - The Kanban board must support smooth drag-and-drop interactions.
- **Availability:**
  - The system must be available 99.9% of the time with minimal downtime.
  - The system must recover from failures within 5 minutes.
- **Maintainability:**
  - The system must have modular code to allow for easier debugging and updates.
  - Code should follow industry best practices and be documented properly.
- **Security:**
  - Passwords must be encrypted using secure hashing.
  - The system must use HTTPS for all data exchanges.
  - Sensitive data must be encrypted at rest and in transit.
  - Role-based access control must be enforced to restrict unauthorized actions.

## 2. Organizational Requirements

These are constraints imposed by policies, regulations, or the organization itself.

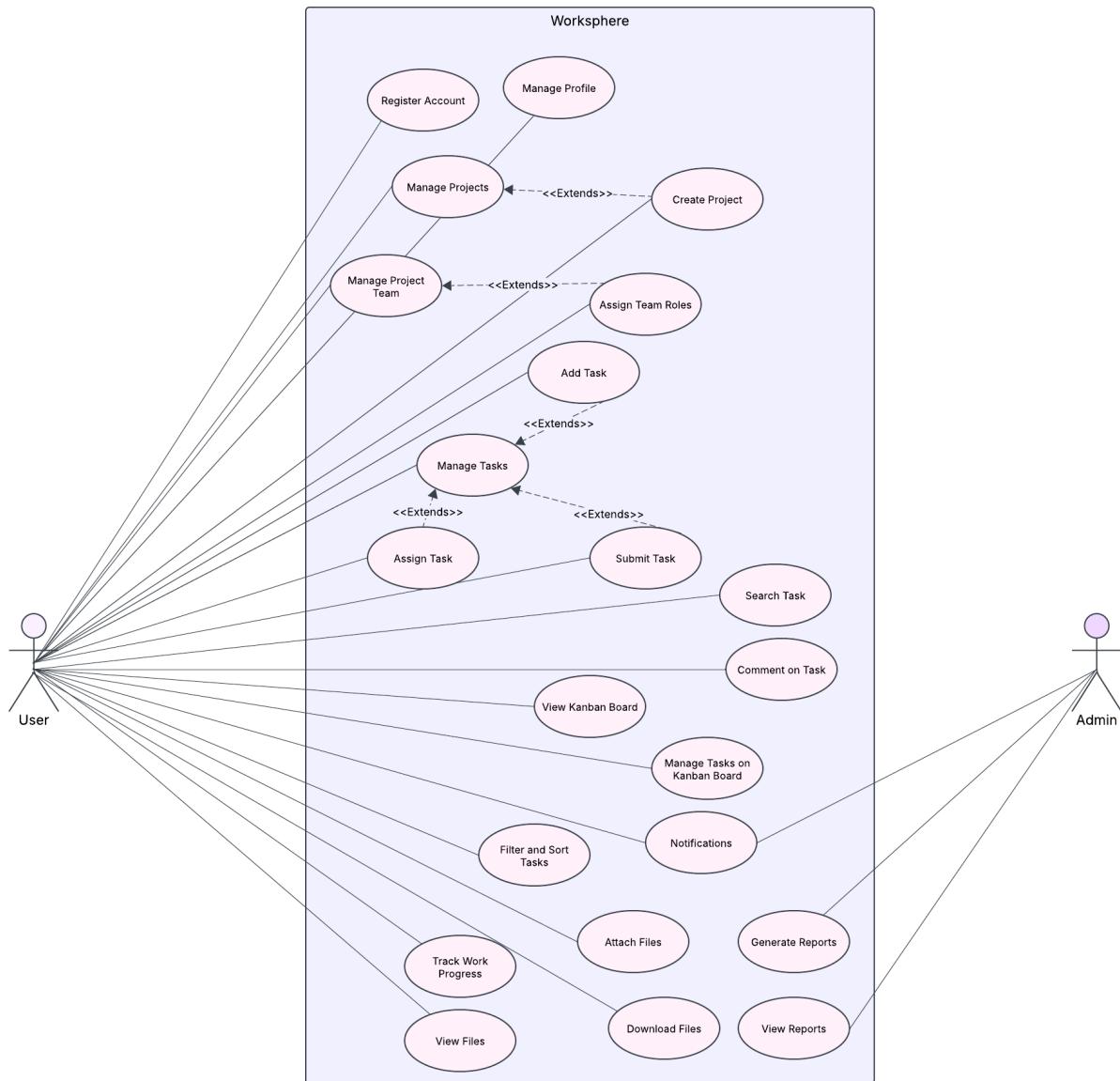
- The development process must follow Agile methodology with bi-weekly sprints.
- The database must support replication for failover and backup.
- The system must be deployed on cloud infrastructure with auto-scaling capabilities.
- The system must comply with the organization's internal security guidelines.

## 3. External Requirements

- **Legal & Compliance:**
  - The system must comply with ISO 27001 standards for information security.
  - Users must have the ability to delete their accounts and data on request.
- **Ethical:**
  - The system must obtain explicit user consent before collecting or processing personal data.
  - Users should have the ability to delete or modify their personal data upon request.
  - The platform must provide equal access to all users, regardless of gender.
- **APIs:** The system must provide a REST API for external integrations.

# User Stories

## Use-Case Diagram:



## User Stories:

- As a User, I want to register an account so that I can access WorkSphere. (**High Priority**)

**Preconditions:** The user must provide valid credentials (email, username, password).  
**Postconditions:** The user account is created and stored in the system, allowing login.

2. As a User, I want to log in to my account so that I can use the system. (**High Priority**)  
**Preconditions:** The user must have a registered account with valid credentials.  
**Postconditions:** The user is authenticated and granted access to the system.
3. As a User, I want to update my password so that I can better control and secure my account. (**Low Priority**)  
**Preconditions:** The user must be logged in and provide the current password.  
**Postconditions:** The password is updated in the system, and the user may need to re-authenticate.
4. As a User, I want to update my profile details so that I can personalize my account. (**Low Priority**)  
**Preconditions:** The user must be logged in.  
**Postconditions:** The updated profile details are saved in the system.
5. As a User, I want to create and manage projects so that I can organize my work. (**High Priority**)  
**Preconditions:** The user must be logged in.  
**Postconditions:** A new project is created and linked to the user's account.
6. As a Project Manager, I want to invite or remove team members from my project so that I can manage my team efficiently. (**Medium Priority**)  
**Preconditions:** The project must exist, and the user must have the necessary permissions.  
**Postconditions:** The invited members receive notifications, and removed members lose access.
7. As a Project Manager, I want to assign user roles (admin, member, guest) so that I can control access to tasks and settings. (**Medium Priority**)  
**Preconditions:** The user must be a project manager.  
**Postconditions:** The assigned roles determine the permissions each user has in the project.
8. As a Project Manager, I want to create tasks and assign them to team members so that work is distributed efficiently. (**High Priority**)  
**Preconditions:** The project must exist, and the manager must have permission to create tasks.  
**Postconditions:** The created task is stored and assigned to the selected team member.
9. As a Project Manager, I want to set deadlines for tasks so that work progresses on schedule. (**Medium Priority**)  
**Preconditions:** A task must exist.  
**Postconditions:** The deadline is recorded and displayed for the assigned team members.
10. As a Project Manager, I want to set task priorities so that my team knows which tasks are most important. (**Medium Priority**)

**Preconditions:** A task must exist.

**Postconditions:** The task's priority level is updated and visible to the team.

11. As a Team Member, I want to update the status of my tasks so that everyone is aware of the progress. (**Medium Priority**)

**Preconditions:** The user must be assigned to the task.

**Postconditions:** The updated status is recorded and displayed to relevant team members.

12. As a User, I want to view tasks on a Kanban board with columns so that I can visually track and divide the project for ease and understanding. (**Medium Priority**)

**Preconditions:** The user must be a member of a project.

**Postconditions:** The Kanban board displays all tasks related to the project.

13. As a User, I want to move tasks between different Kanban board columns so that I can update the task's progress. (**High Priority**)

**Preconditions:** The user must be authorized to update task status.

**Postconditions:** The task is moved to the appropriate column, reflecting its progress.

14. As a User, I want to filter and sort tasks based on priority, deadline, and assignee so that I can quickly review project progress. (**Medium Priority**)

**Preconditions:** The project must have tasks.

**Postconditions:** The filtered and sorted tasks are displayed based on the selected criteria.

15. As a User, I want to search for specific tasks by name or keyword so that I can find tasks quickly. (**Medium Priority**)

**Preconditions:** The project must have tasks.

**Postconditions:** The search results display tasks matching the input criteria.

16. As a Team Member, I want to comment on tasks and mention teammates so that discussions remain focused. (**Medium Priority**)

**Preconditions:** The user must be a member of the project.

**Postconditions:** The comment is saved and visible to relevant team members.

17. As a Project Manager, I want to set up automatic reminders for overdue tasks so that nothing is forgotten. (**Low Priority**)

**Preconditions:** Tasks must have deadlines.

**Postconditions:** Notifications are sent for overdue tasks.

18. As a Team Member, I want to receive notifications when I am assigned a task so that I stay informed. (**Medium Priority**)

**Preconditions:** A task must be assigned to a user.

**Postconditions:** The assigned user receives a notification.

19. As a User, I want to receive notifications for task updates so that I stay informed about progress. (**Medium Priority**)

**Preconditions:** A task must exist and be updated.

**Postconditions:** Relevant users receive a notification about the update.

20. As a User, I want to track all changes made to tasks so that I can monitor team activity and progress. (**Medium Priority**)

**Preconditions:** Tasks must exist and change.

**Postconditions:** All changes are logged and can be reviewed.

21. As a Project Manager, I want to view reports on task completion rates, overdue tasks, and team productivity so that I can analyze project performance. (**Low Priority**)

**Preconditions:** The project must have tasks and team members working on them.

**Postconditions:** Reports are generated based on task completion and productivity.

22. As a User, I want to attach relevant documents and files to a task so that I can share important resources with my team. (**Medium Priority**)

**Preconditions:** The user must be assigned to the task.

**Postconditions:** The attached file is stored and linked to the task.

23. As a User, I want to preview and download the attached files so that I can access the necessary information. (**Medium Priority**)

**Preconditions:** A file must be attached to a task.

**Postconditions:** The file can be viewed or downloaded by authorized users.

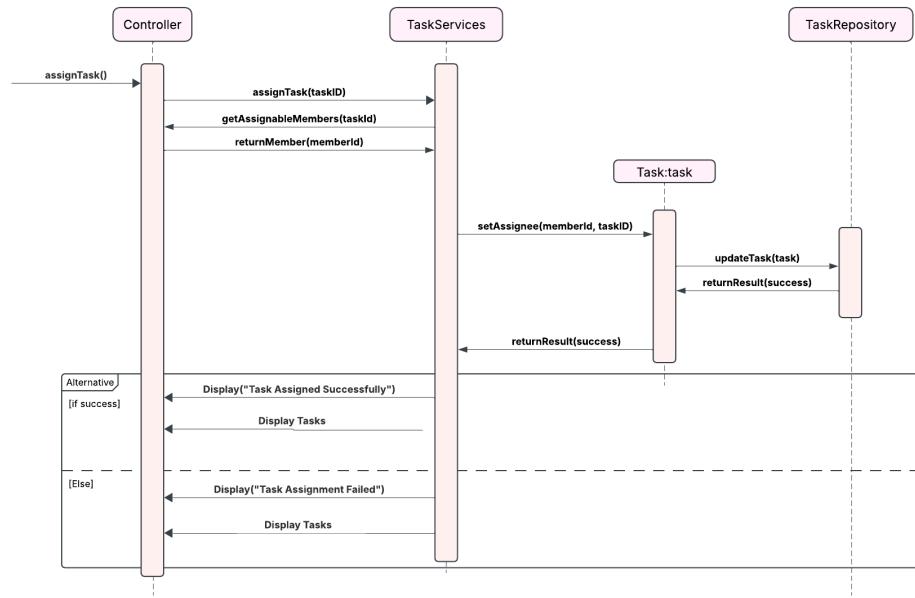
24. As a User, I want to view a list of all attached files within a task so that I can quickly find and reference necessary documents. (**Low Priority**)

**Preconditions:** The task must have attachments.

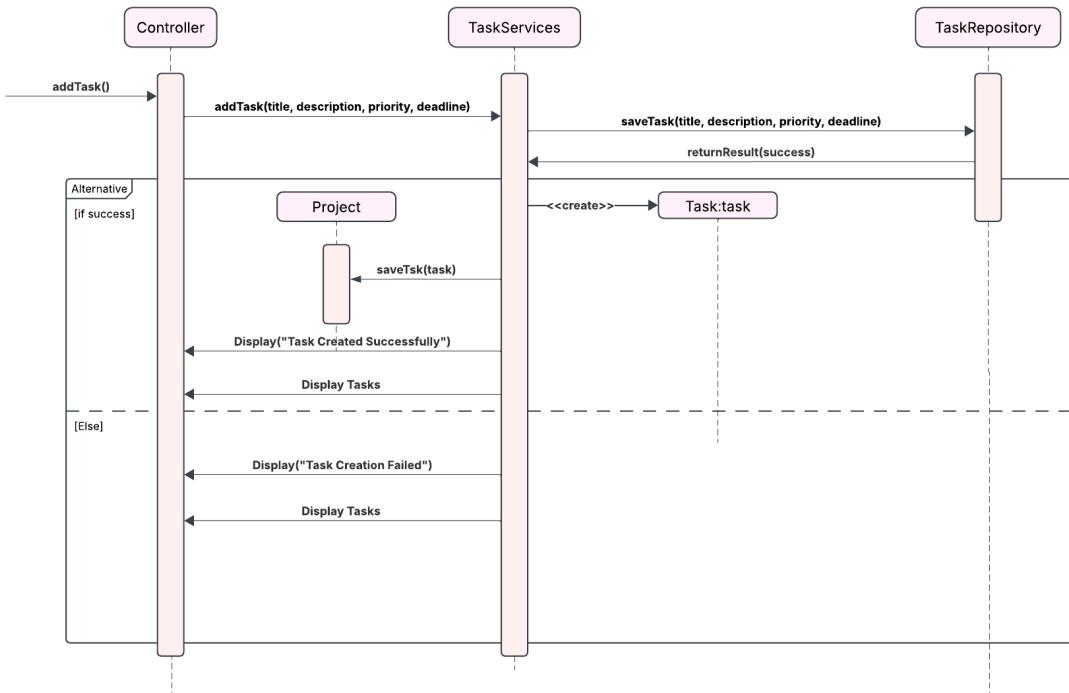
**Postconditions:** A list of all attached files is displayed.

# Sequence Diagrams

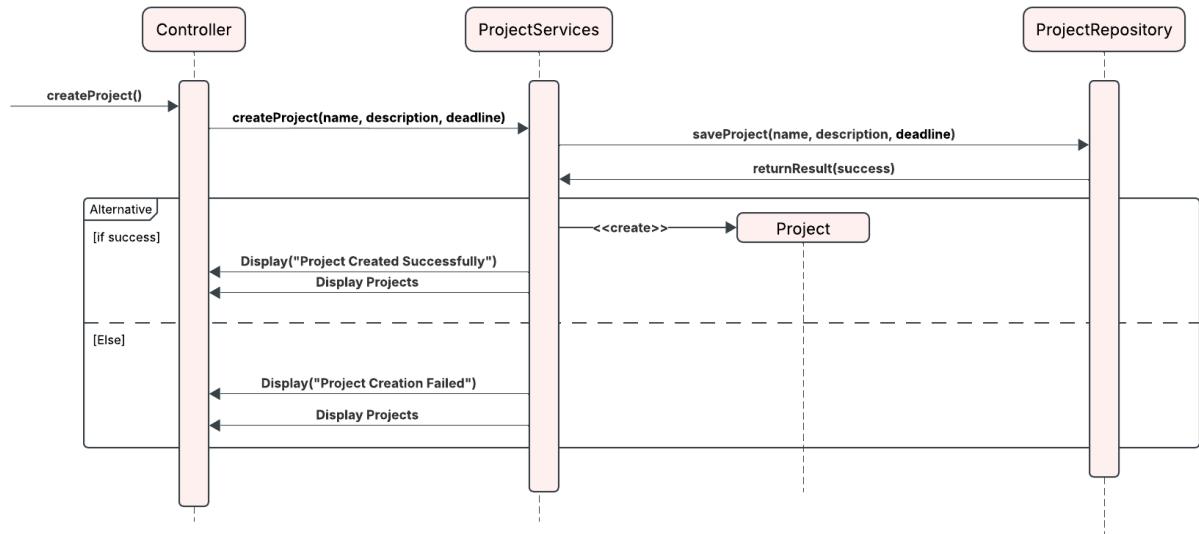
## 1. Assign tasks to team members.



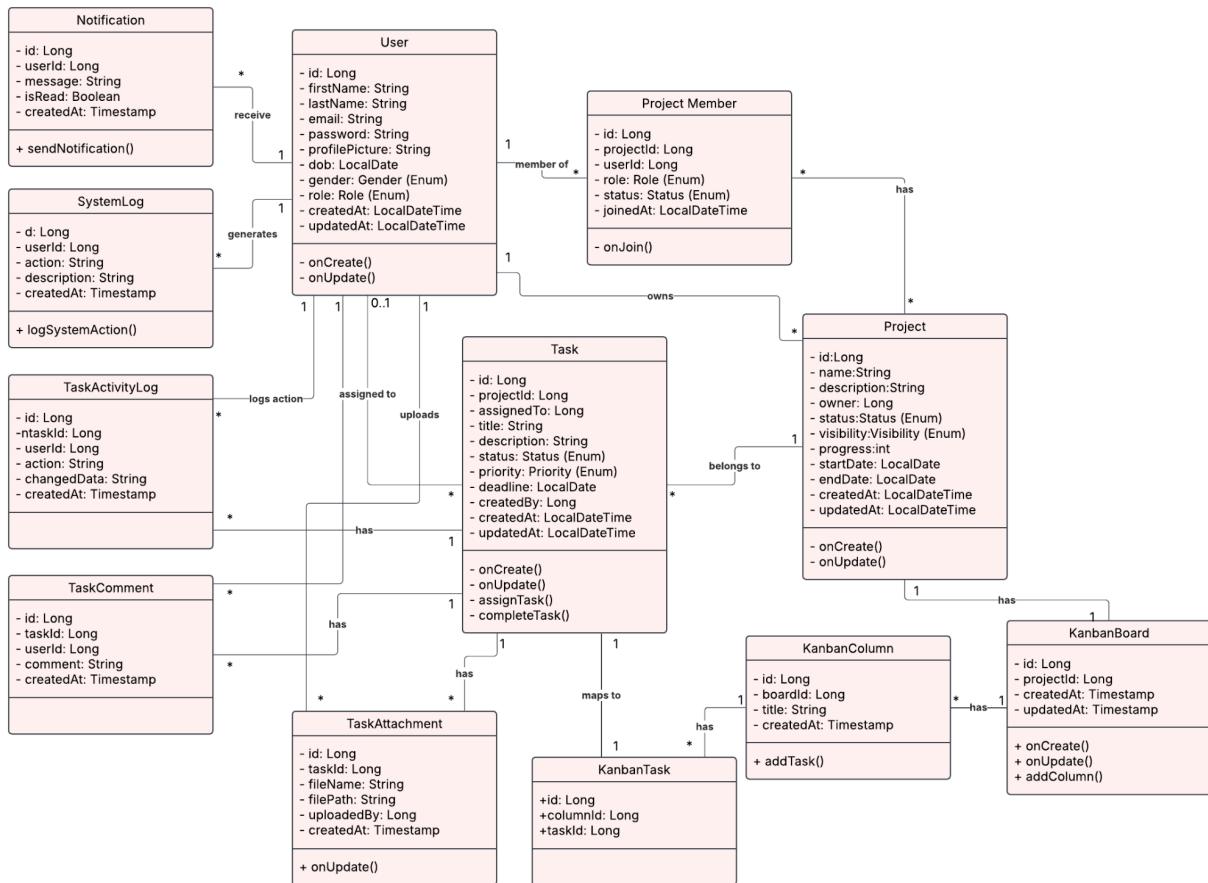
## 2. Create task.



### 3. Create project.



## Class Diagram



## Version Control

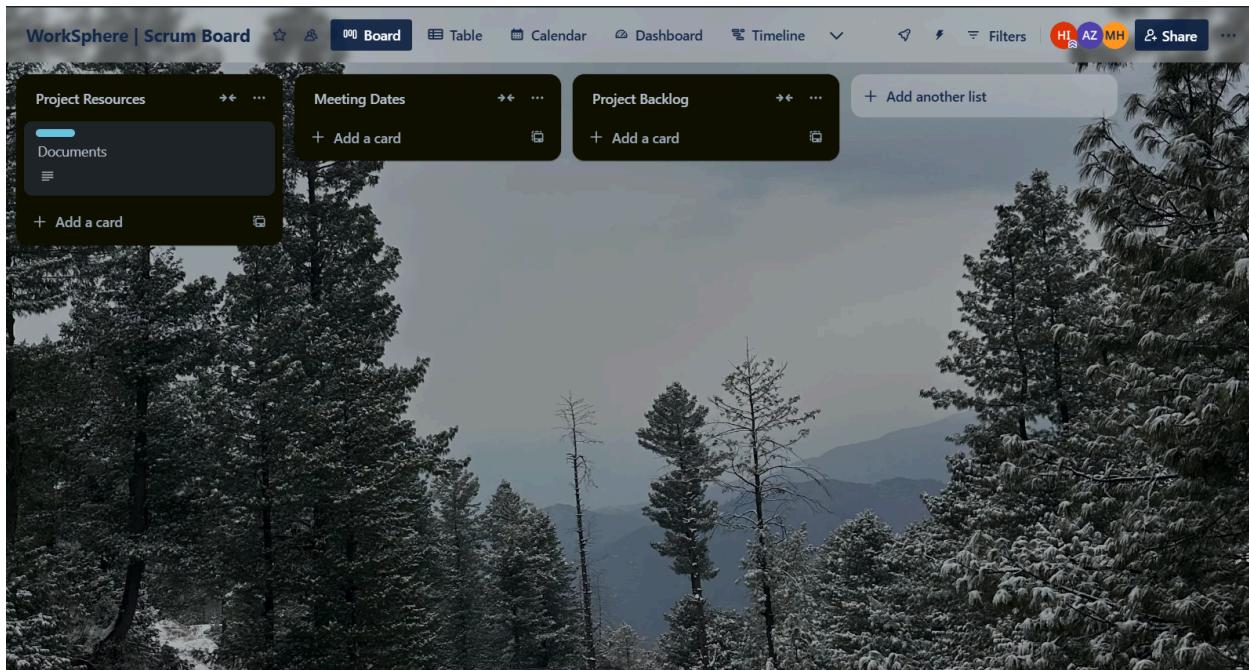
GitHub: <https://github.com/hafsa-imtiaz/worksphere>

DB Update + Task Services added	6d39f32			
Some final UI touches.	b02ad6f			
frontend updated	06edee6			
Merge branch 'main' of https://github.com/hafsa-imtiaz/worksphere	bec8e64			
Areen-Zainab committed 9 hours ago				
Landing page updated	699722a			
Areen-Zainab committed 9 hours ago				
new files uploaded	0207b30			
mahumhamid committed 14 hours ago				
files uploaded	fa848b1			
mahumhamid committed 14 hours ago				

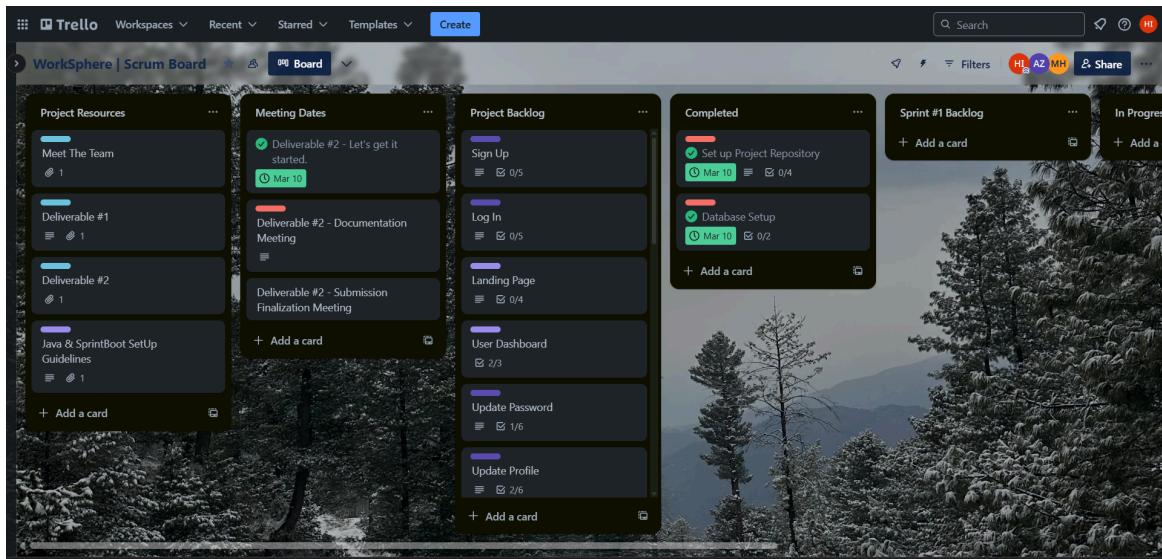
## Trello Board

Trello: <https://trello.com/b/co7VD9RA/worksphere-scrum-board>

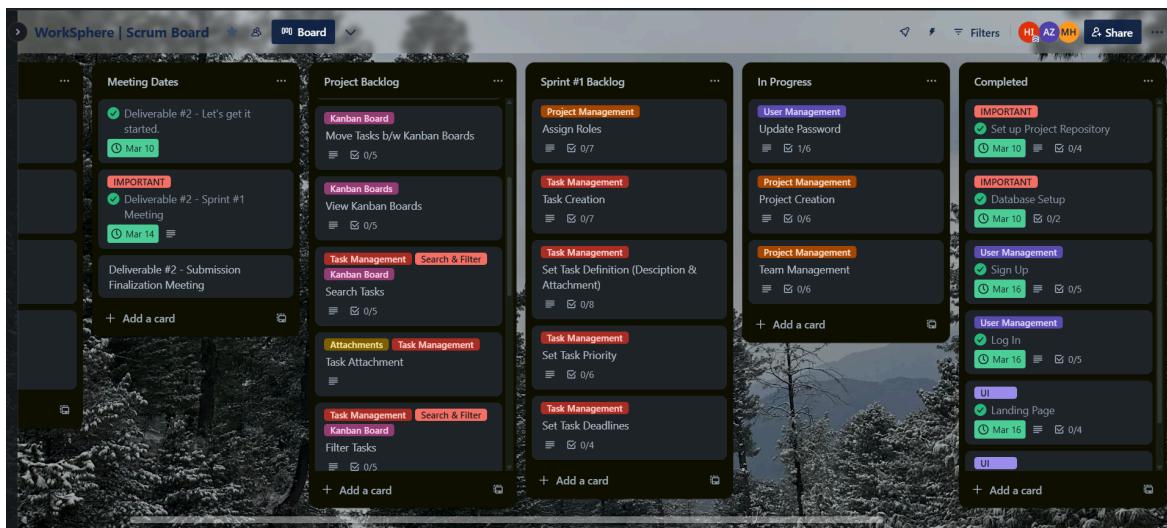
### 1. Initial Structure



## 2. Product Backlog



## 3. Sprint #1



## 4. Sprint #2

