WorkSphere

Task Management & Team Collaboration Tool

Deliverable #1

Project Introduction

A project by

Aura++

Hafsa Imtiaz *(22i - 0959)*

Mahum Hamid *(22i - 1009)*

Areen Zainab *(22i - 1115)*

Section H

28th February 2025

WorkSphere:

Task Management & Team Collaboration Tool

Introduction

WorkSphere is a modern task management and team collaboration tool designed to streamline workflows, enhance productivity, and improve communication within teams. It provides an intuitive platform where users can create, track, and manage tasks efficiently while enabling seamless collaboration among team members.

Inspired by tools like GitHub Issues, Trello, and ClickUp, WorkSphere aims to offer a balanced mix of simplicity, flexibility, and powerful features tailored to different team structures and work styles.

Project Vision

The vision of WorkSphere is to create a centralized workspace that allows teams to organize their tasks, track progress, and collaborate effectively. The system will cater to a wide range of users, from small teams to large enterprises, offering features that adapt to various project management methodologies such as Agile, Scrum, and Kanban. The goal is to eliminate inefficiencies caused by disorganized task tracking and communication gaps, ensuring teams can focus on delivering results rather than managing the process.

End-Users & Stakeholders

- **Project Managers** – To assign tasks, track progress, and oversee project milestones.
- **Team Members** – To manage individual workloads, collaborate, and update task statuses.

- **Freelancers & Remote Workers** – To organize their tasks, set deadlines, and integrate with clients.
- **Business Owners & Executives** – To gain insights into project progress through analytics.
- **Clients** – To provide feedback or track progress on specific tasks.

Features

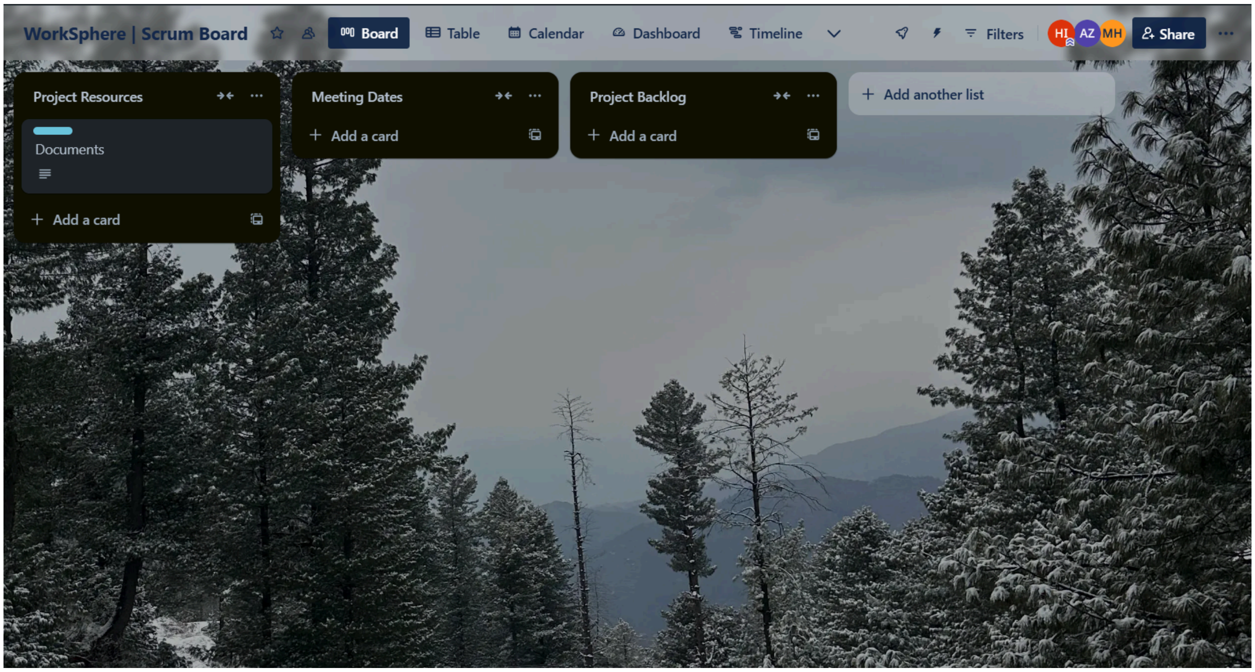
- **Task Management** – Users can create, assign, prioritize, and track tasks.
- **Kanban Boards** – Visual representation of tasks using columns (To-Do, In Progress, Done).
- **Activity Logs** – Track changes and updates made to a task.
- **File Attachments & Document Sharing** – Upload and share relevant files.
- **Comments & Mentions** – Discuss tasks directly with teammates and tag specific users.
- **Deadline & Reminders** – Due dates, reminders, and overdue task alerts.
- **Notifications & Alerts** – Keep team members updated on task changes and deadlines.
- **User Roles & Permissions** – Define access levels (Admin, Member, Viewer).
- **Reporting & Analytics** – Visualize project status and team performance.

How Will the System Help Users?

- Better task organization and visibility.
- Reduces miscommunication.
- Enhances team collaboration.
- Improves efficiency.
- Provides data-driven insights.

Scrum Board

Link: WorkSphere | Scrum Board



User Stories

1. Task Management

- As a Project Manager, I want to create tasks and assign them to team members so that work can be distributed efficiently.

  Sub-Stories:

  - *As a project manager, I want to set task priorities so that my team knows which tasks are most important.*
  - *As a project manager, I want to add detailed descriptions amd attachments to tasks so that team members understand requirements clearly.*
  - *As a project manager, I want to assign task dependencies so that tasks are completed in the correct sequence.*
  - *As a project manager, I want to set deadlines for tasks so that work progresses on schedule.*

    - *As a project manager, I want to edit or update tasks so that I can adjust them based on project changes.*

- As a Team Member, I want to update the status of my tasks so that everyone is aware of the progress.

  Sub-Stories:

    - *As a team member, I want to track the progress of my assigned tasks so that I stay updated on my workload.*
    - *As a team member, I want to mark tasks as in progress, completed, or blocked so that the project manager and teammates have real-time updates.*
    - *As a team member, I want to add comments or notes to my tasks so that I can provide context on progress or challenges.*
    - *As a team member, I want to attach relevant files or documents to my tasks so that all necessary resources are easily accessible.*

2. Kanban Board

- 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.

  Sub-Stories:

    - *As a User, I want to move tasks between different Kanban board columns so that I can update the task's progress.*
    - *As a User, I want to filter and sort tasks based on priority, deadline, and assignee, so that I can quickly review project progress.*
    - *As a User, I want to assign colors or labels to tasks so that I can quickly identify task categories or priorities.*

3. Activity Logs

- As a Project Manager, I want to track all changes made to tasks, so that I can monitor team activity and progress.
- As a team member, I want to see who updated a task and what changes were made, so that I stay informed about task modifications.
- As a Project Manager, I want to view a history of completed tasks and changes, so that I can evaluate project performance.

4. File Attachments & Document Sharing

- As a **team member**, I want to **attach relevant documents and files to a task**, so that I can share important resources with my team.

  Sub-Stories:

  - *As a team member, I want to preview and download attached files, so that I can access necessary information.*

  - *As a Team Member, I want to view a list of all attached files within a task, so that I can quickly find and reference necessary documents.*

5. Collaboration & Communication

- As a Team Member, I want to comment on tasks and mention teammates so that discussions remain focused.

- As a Project Manager, I want to receive notifications for task updates so that I stay informed about progress.

- As a Project Manager, I want to set up automatic reminders for overdue tasks so that nothing is forgotten.

6. Reporting & Analytics

- 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.

Story ID: 1 **Story Title:** Create and Assign Tasks

User Story:

As a Project Manager, I want to create tasks and assign them to team members so that work can be distributed efficiently.

Pre Conditions:

- The project exists in the system.
- The project manager is logged in and has the necessary permissions to create and assign tasks.
- Team members are already added to the project.
- Task creation fields (e.g., title, description, priority, deadline) are available.

Post Conditions:

- A new task is successfully created and stored in the system.

- The assigned team members receive notifications about their task assignments.
- The task appears in the project task list with relevant details.
- The project manager and team members can track and update the task status.

Acceptance Criteria:

And I know I'm done when:

- The project manager can successfully create a new task with a title, description, priority level, and deadline.
- The project manager can assign the task to one or more team members and define their roles or responsibilities.
- Assigned team members receive notifications about their new task.
- Task status updates are visible to the project manager and the team in real-time.
- The project manager can track task progress through status updates or comments from team members.
- The project manager has the ability to edit, reassign, or remove tasks when necessary.
- The project manager can view a summary of all assigned tasks, including pending, in-progress, and completed ones.

Story ID: 2 **Story Title:** Update Task Status

User Story:

As a Team Member, I want to update the status of my tasks so that everyone is aware of the progress.

Pre Conditions:

- The team member is logged into the system.
- The team member has at least one assigned task.
- The system allows task status updates.
- The task is not already marked as completed or locked for updates.

Post Conditions:

- The task status is successfully updated in the system.
- The updated status is visible to the project manager and relevant team members.
- A timestamp or activity log records the status change.
- Notifications are sent to relevant stakeholders.

Acceptance Criteria:

And I know I'm done when:

- The team member can view all assigned tasks with current statuses.
- The system provides an option to update task status (e.g., "Not Started," "In Progress," "Blocked," "Completed").
- Status updates are reflected in real-time for other users.
- The system prevents invalid status updates (e.g., marking a canceled task as "In Progress").
- A history of status changes is maintained for tracking.

Story ID: 3 **Story Title:** View Tasks on Kanban Board

User Story:

As a User, I want to view tasks on a Kanban board with columns (To-Do, In Progress, Done) so that I can visually track the status of my tasks.

Pre Conditions:

- The user is logged into the system.
- The user has at least one assigned task.
- The Kanban board feature is enabled and accessible.
- Tasks have defined statuses (e.g., "To-Do," "In Progress," "Done").

Post Conditions:

- The user can view all assigned tasks organized into appropriate columns based on their status.
- The Kanban board updates in real-time as tasks are moved or status changes

occur.
- Task details (e.g., title, priority, deadline) are clearly visible on the board.

Acceptance Criteria:

And I know I'm done when:

- The Kanban board displays tasks categorized into "To-Do," "In Progress," and "Done" columns.
- Tasks are automatically placed in the correct column based on their status.
- Users can view task details by clicking on a task card.
- The board updates dynamically when task statuses change.
- The UI allows smooth navigation and interaction with tasks.

Story ID: 4 **Story Title:** Track Task Changes

User Story:

As a team lead, I want to track all changes made to tasks, so that I can monitor team activity and progress.

Pre Conditions:

- The team lead is logged into the system.
- The team lead has the necessary permissions to view task history.
- Tasks exist in the system and have undergone changes (e.g., status updates, reassignment, edits).
- A task change tracking mechanism is implemented in the system.

Post Conditions:

- The team lead can view a log of all changes made to tasks, including status updates, reassignments, and modifications.
- Each change is recorded with relevant details such as the timestamp, the user who made the change, and the type of change.
- The team lead can filter or search task changes based on date, team member, or task.
- The system ensures data integrity by maintaining a complete and accurate history of changes.

Acceptance Criteria:

And I know I'm done when:

- A task history or activity log is available, displaying all changes made to tasks.
- Each task update includes details such as the action taken, the user who performed it, and the timestamp.
- The team lead can view changes for individual tasks as well as an overview of all task modifications.
- Task changes are updated in real-time and reflect accurate data.
- The team lead can filter or sort task change history based on different criteria (e.g., date, team member, task).

Story ID: 5 **Story Title:** View Task Update History

User Story:

As a team member, I want to see who updated a task and what changes were made, so that I stay informed about task modifications.

Pre Conditions:

- The team member is logged into the system.
- The team member has access to the assigned tasks.
- Task tracking and history logging are enabled in the system.
- Changes (such as status updates, reassignments, or edits) have been made to the task.

Post Conditions:

- The team member can see a history of all updates made to a task.
- Each update displays details such as the user who made the change, the type of change, and the timestamp.
- Task modifications are logged and accessible for review.
- The team member stays informed about task progress and updates.

Acceptance Criteria:

Story ID: 6 **Story Title:** View Task History for Project Evaluation

User Story:

As a Project Manager, I want to view a history of completed tasks and changes, so that I can evaluate project performance.

Pre Conditions:

- The project manager is logged into the system.
- Tasks have been completed and changes have been made.
- The system tracks and stores task completion history and modifications.
- The project manager has the necessary permissions to view task history.

Post Conditions:

- The project manager can view a history of completed tasks along with relevant details.
- Changes to tasks, including status updates, assignments, and modifications, are displayed.
- Task history is organized and accessible for analysis.
- The project manager can assess task completion trends and team performance.

Acceptance Criteria:

And I know I'm done when:

- A task history log is available, showing completed tasks with details such as completion date and assigned team members.

- The log includes task modifications, including status changes, reassignments, and edits.
- The project manager can filter or search task history based on date, team member, or project phase.
- Task history is maintained securely and cannot be altered by unauthorized users.
- The system presents task history in a structured and easy-to-read format.

Story ID: 7 **Story Title:** Attach Files to Tasks

User Story:

As a team member, I want to attach relevant documents and files to a task, so that I can share important resources with my team.

Pre Conditions:

- The team member is logged into the system.
- The team member has access to the assigned tasks.
- The system supports file attachments and has storage available.

Post Conditions:

- The team member successfully uploads and attaches files to a task.
- Attached files are visible and accessible to other authorized team members.
- The system stores and organizes the attached files with the respective task.
- Team members can download or view the attached files as needed.

Acceptance Criteria:

And I know I'm done when:

- The system allows team members to upload and attach files to a task.
- Attached files are displayed within the task details.
- The system supports common file types (e.g., PDFs, images, documents).
- Files can be downloaded or viewed by authorized users.
- The system prevents unauthorized users from accessing or modifying attachments.
- Notifications are sent to relevant team members when a file is attached.

Story ID: 8 **Story Title:** Commenting on Tasks

User Story:

As a Team Member, I want to comment on tasks and mention teammates so that discussions remain focused.

Pre Conditions:

- The user is logged into the system.
- The task is exist in the system
- The commenting feature is enabled for the task.
- The mentioned teammates are part of the project or task.

Post Conditions:

- The comment is successfully added to the task discussion.
- Mentioned teammates receive a notification about the mention.
- The comment appears in the task discussion thread.

Acceptance Criteria:

And I know I'm done when:

- I can add comments to a task as a team member.
- I can mention teammates using @mentions, and they are notified.
- Mentioned teammates receive a notification about the mention.
- Comments appear in chronological order within the task discussion.
- I can edit or delete my own comments.
- The system prevents commenting on closed or archived tasks.

Story ID: 9 **Story Title:** Receive Notifications

User Story:

As a Project Manager, I want to receive notifications for task updates so that I stay informed about progress.

Pre Conditions:

- The user is logged in as a Project Manager.
- The task exists and is assigned to a team or individual
- Notifications are enabled for task updates.

Post Conditions:

- The Project Manager receives a notification about the task update..
- The notification contains relevant details about the update
- The Project Manager can access the updated task directly from the notification.

Acceptance Criteria:

And I know I'm done when:

- I receive a notification for any task updates as a Project Manager.
- The notification includes the task name, type of update, and timestamp.
- I can click the notification to view the updated task details.
- Notifications are delivered via email, in-app alerts, or both, based on my settings.
- If a task is updated multiple times in a short period, notifications are batched to avoid spam.
- I can enable or disable notifications for specific tasks or projects.
- Notifications are not sent for minor edits that don’t impact progress.

Story ID: **10** **Story Title:** Reminders for Overdue Tasks

User Story:

As a Project Manager, I want to set up automatic reminders for overdue tasks so that nothing is forgotten.

Pre Conditions:

- The user is logged in as a Project Manager.
- The system has tasks assigned with due dates.
- The reminder feature must be enabled for the project.
- At least one task must be overdue based on its due date.

Post Conditions:

- The system automatically sends a reminder notification for overdue tasks.
- The reminder includes task details, such as task name, assignee, and overdue duration.
- The system logs the reminder notification for tracking purposes.

Acceptance Criteria:

And I know I'm done when:

- I can enable or disable automatic reminders for overdue tasks.
- I receive a notification when a task becomes overdue.
- The notification includes task name, assigned team member, and overdue duration.
- Reminders are sent at regular intervals until the task is updated or completed.
- The system does not send duplicate reminders if the task is already acknowledged.

Story ID: 11 **Story Title:** View Task Reports for Project Analysis

User Story:

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.

Pre Conditions:

- The project manager is logged into the system.
- The system tracks and stores task completion data, overdue tasks, and team productivity metrics.
- Tasks have been assigned and updated with statuses over time.
- The project manager has the necessary permissions to access reports.

Post Conditions:

- The project manager can generate and view reports on task completion rates, overdue tasks, and team productivity.
- Reports provide insights into project performance and efficiency.
- Data is presented in a structured format (e.g., charts, tables, graphs).

Acceptance Criteria:

And I know I'm done when:

- The system provides reports on task completion rates, overdue tasks, and team productivity.
- Reports display accurate and up-to-date data.
- The project manager can filter reports by date range, team member, or project phase.
- Data visualization tools (charts, graphs, or tables) enhance report readability.
- Reports can be exported or downloaded for further analysis.
- Only authorized users can access project reports.

Non-Functional Requirements

1. Performance Requirements

- The system shall support up to 500 concurrent users with a response time of under 2 seconds for core operations such as task creation, updates, and status changes.

- The Kanban board shall update in real-time with minimal latency to ensure smooth task tracking.

2. Scalability Requirements

- The system shall support seamless expansion to accommodate increasing users and tasks without performance degradation.
- The database shall efficiently manage growing records of tasks, attachments, and activity logs.

3. Availability Requirements

- The system shall maintain a minimum uptime of 99.9% to ensure continuous availability.
- Scheduled maintenance shall be conducted during off-peak hours to minimize user disruption.

4. Security Requirements

- Role-based access control should be implemented to restrict unauthorized actions.
- Secure authentication mechanisms, including optional multi-factor authentication (MFA), shall be provided.

5. Usability Requirements

- The user interface shall be designed for intuitive navigation, allowing new users to understand the system within 10 minutes of onboarding.
- The system shall provide clear visual feedback for user actions, such as task creation, updates, and notifications.

6. Reliability Requirements

- The system shall have automated failover mechanisms to prevent data loss in case of server failure.
- All critical actions, such as task updates and file uploads, shall be logged to maintain data integrity.

7. Maintainability Requirements

- The system shall be modular, allowing individual components (UI, database, business logic) to be updated independently.

- The codebase shall adhere to industry best practices and be well-documented for ease of maintenance.

8. Backup and Recovery Requirements

- Automated daily backups shall be implemented to ensure data security.
- In case of failure, the system shall restore the most recent backup within one hour.