

Software Project Management System – Final Deliverable

Group 3

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1. Introduction

This document presents the final deliverable for our Project Management System, SynkPM, designed to help teams track and manage software projects efficiently. Our system allows users to input and monitor the projects details, requirements, and time spent on various development tasks. We have implemented the core features outlined in both our Quick Plan and Comprehensive Plan, which allowed us to focus on usability and effectiveness. Our team followed a step-by-step development approach with clearly defined roles to ensure smooth collaboration.

2. System Implementation

2.1 Technologies Used

- Java backend with Tomcat server
- Maven for dependency management
- HTML/CSS frontend
- AWS RDS database structure

2.2 Features Implemented

2.2.1 *General Project Section*

- High-level project description input and storage
- Project manager information management
- Team member tracking with ability to update as the project progresses
- Risk listing and status tracking functionality

2.2.2 *Project Requirements*

Functional requirements entry and management system:

- Custom input form allowing users to add detailed functional requirements with unique identifiers
- Ability to categorize requirements by priority level (critical, high, medium, low)

- Feature to link requirements to specific project objectives mentioned in the project description
- Version control for requirements to track changes throughout project lifecycle
- Ability to assign requirements to specific team members for implementation
- Status tracking (not started, in progress, completed, overdue)

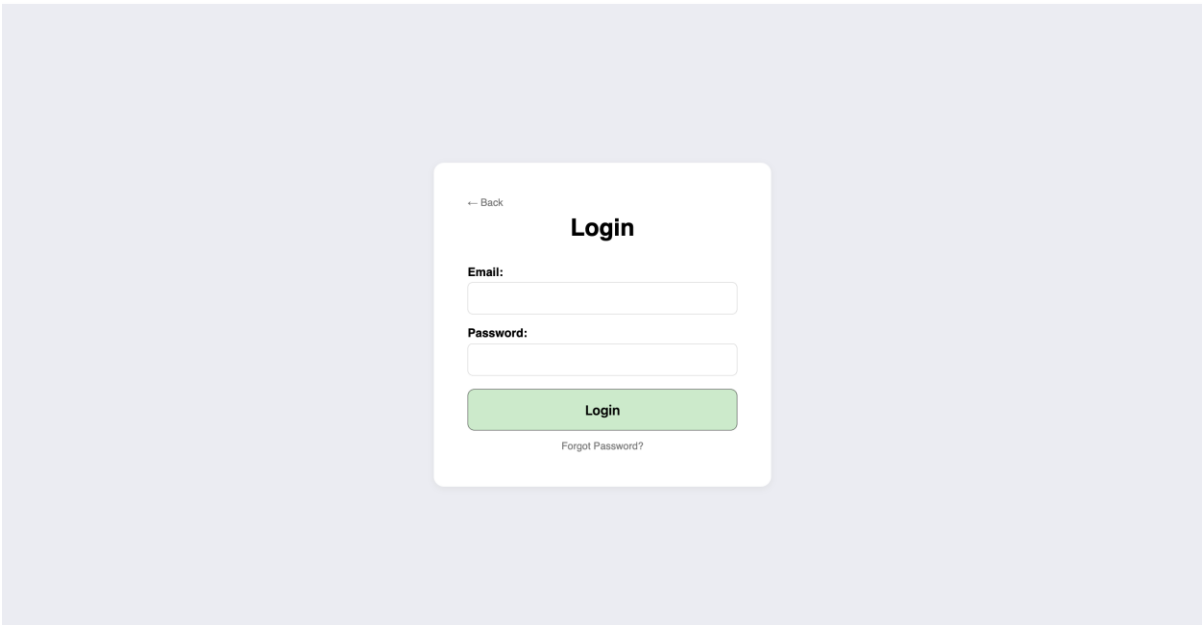
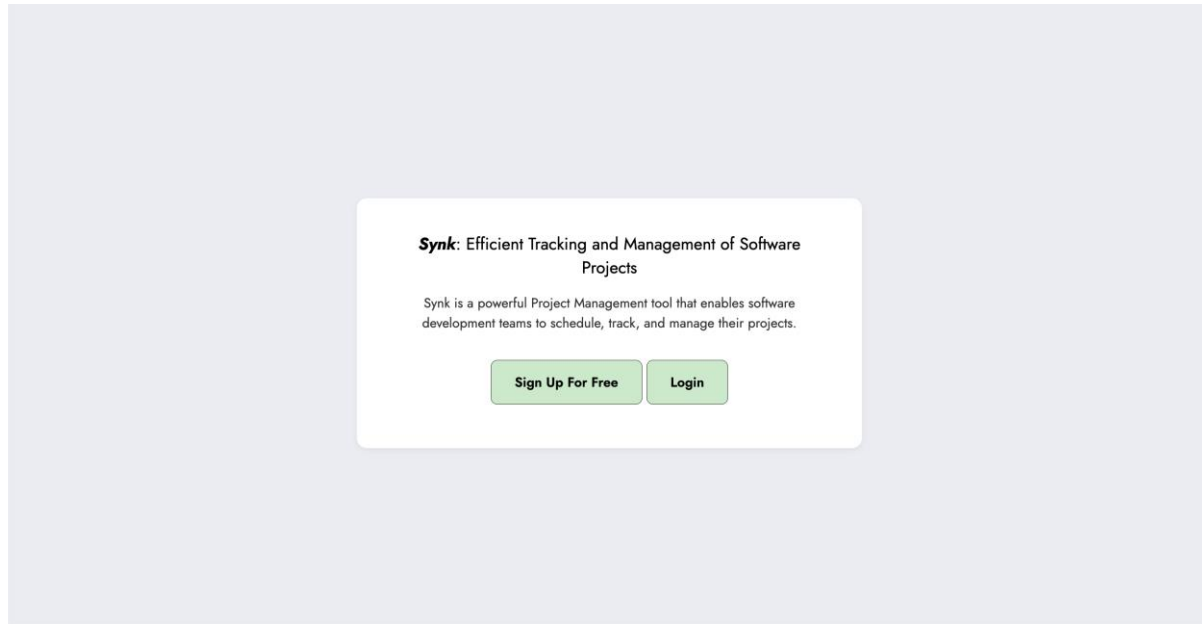
Non-functional requirements documentation capabilities:

- Standard templates for common non-functional requirements categories
- Ability to set measurable acceptance criteria for non-functional requirements
- Integration with risk management to identify potential conflicts between requirements

Requirements categorization and tracking:

- Visual dashboard showing requirement status and progress
- Filtering capabilities to view requirements by type, status, priority
- Progress tracking with completion indicators
- Reporting functionality to generate requirement status reports

2.3 User Interface



← Back

Sign Up

First Name:

Last Name:

Email:

Password:

Sign Up

Projects

Search project...

AllTo DoIn ProgressCompletedOverdueHighMediumLow+ Add Project

Medium Risk

SynkPM Dashboard

Main dashboard overview for project tracking.

47 hrs

Due: 2025-05-30

High Risk

User Authentication

JWT-based authentication with session tracking.

3 hrs

Due: 2025-06-15

Low Risk

UI Refactor

Redesign the entire frontend into components.

0 hrs

Due: 2025-04-20

Medium Risk

Testing

This is just a test

0 hrs

Due: 2025-04-24

Low Risk

Sample example

0 hrs

Due: 2025-04-30

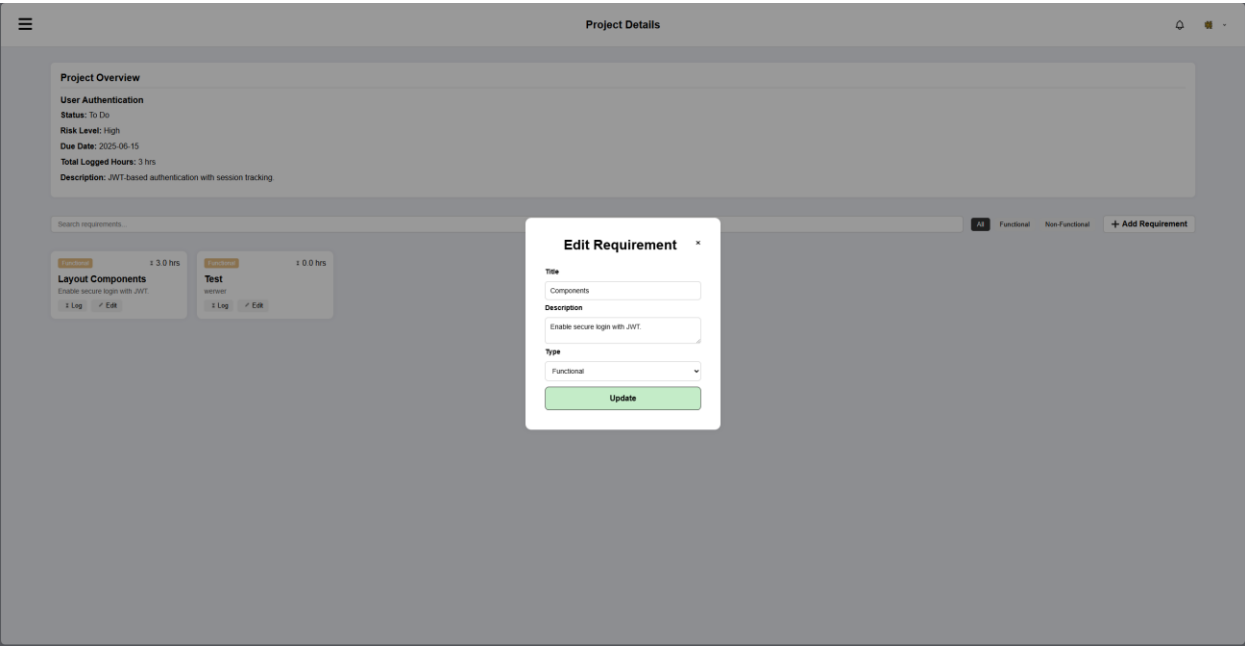
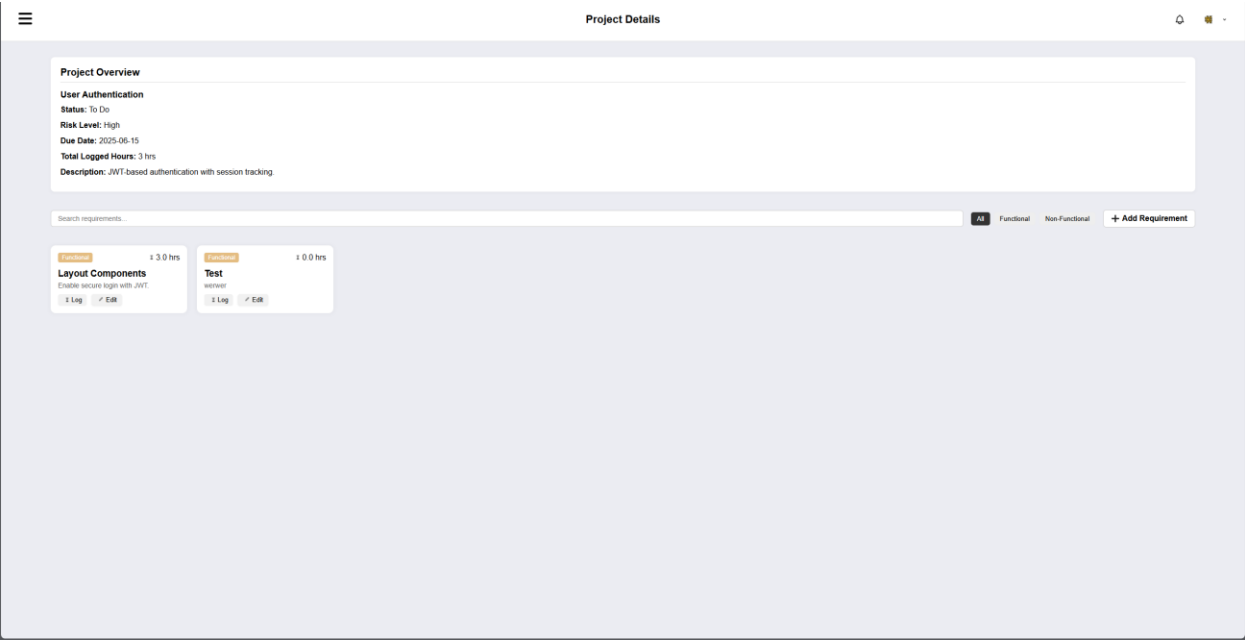
Medium Risk

Test

Team Project Test

0 hrs

Due: 2112-12-31



Project Details

Project Overview

User Authentication

Status: To Do

Risk Level: High

Due Date: 2025-06-15

Total Logged Hours: 3 hrs

Description: JWT based authentication with session tracking

Search requirements

Functional3 0 hrs

Layout Components

Enable secure login with JWT

LogEdit

Functional3 0 hrs

Test

verify

LogEdit

Log Effort for Layout Components

Date of Work

mm/dd/yyyy

Requirements Analysis (hrs)

Designing (hrs)

Coding (hrs)

Testing (hrs)

Project Management (hrs)

Submit Log

Dashboard

Search project

All

To Do

In Progress

Completed

Overdue

High

Medium

Low

Add Project

Medium Risk

SynkPM Dashboard

Main dashboard overview for project tracking

2 47 hrs

Due 2025-05-30

High Risk

User Authentication

JWT based authentication with session tracking

2 3 hrs

Due 2025-06-15

Low Risk

UI Refactor

Redesign the entire frontend into components

2 0 hrs

Due 2025-04-20

Medium Risk

Testing

This is just a test

2 0 hrs

Due 2025-04-24

Low Risk

Sample

example

2 0 hrs

Due 2025-04-30

Medium Risk

Test

Team Project Test

2 0 hrs

Due 2112-12-31

New Project

Project Name

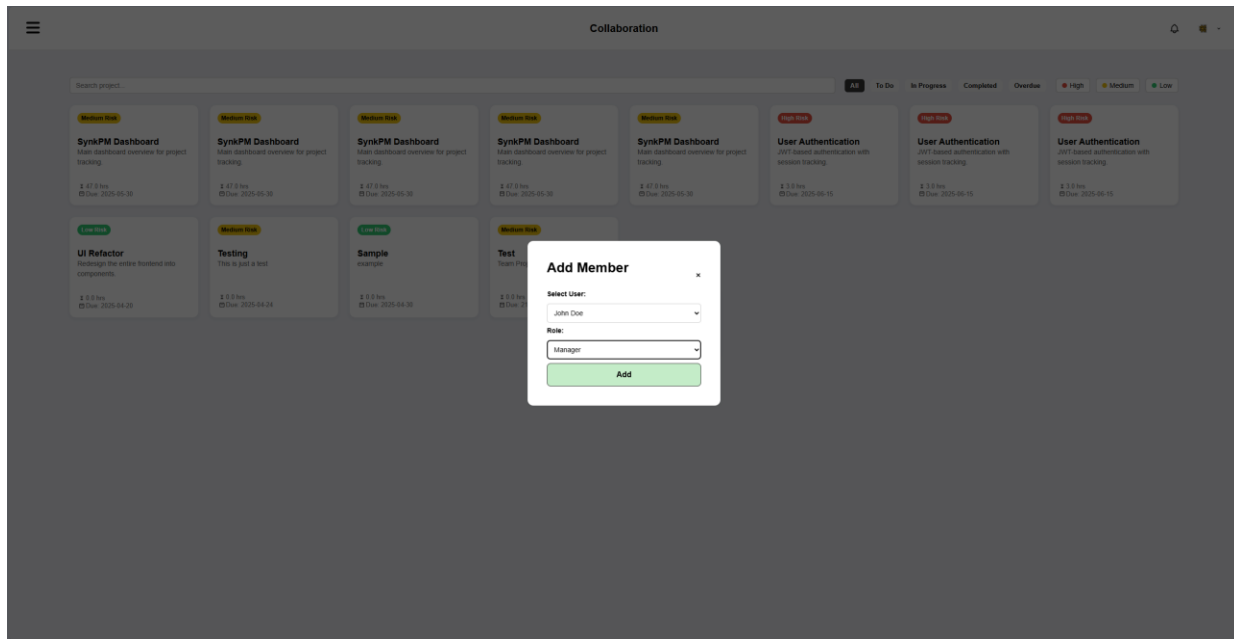
Project Description

To Do

Low

mm/dd/yyyy

Add Project



- Clean, user-friendly interface built in planned stages
- Dashboard displays project metrics immediately
- Easy navigation across project details, requirements, and effort tracking

3. Project Management

- The project was developed over approximately 200 person-hours as initially estimated
- Team collaboration through regular meetings and online communication

Challenges encountered included:

- Translating Figma front-end design prototypes into functional code that could connect with our backend that uses Java.
- Balancing project work with other academic commitments
- Initial learning curve with the selected development technologies

Solutions implemented:

- Used [Figma designs](#) as visual references rather than attempting direct conversion to code
- Established regular Teams check-in meetings
- Implemented clear task division based on team member strengths

- Created collaborative coding sessions to overcome technical hurdles
- Utilized GitHub for version control to manage code contributions effectively
- Logged pass/fail test cases in a [tracking doc](#) for feature progress.

4. User Guide

- [Installing Synk](#)

Basic usage example

- Project Name: E-Commerce Platform
- Description: Redesign the existing e-commerce space through improved UX and use SynkPM to manage the development process
- Timeline: May 1st - December 1st

5. Summary

The Project Management System we developed successfully meets all project requirements by providing a comprehensive solution for tracking software projects. Our system presents a user-friendly interface that allows for project information management, requirement documentation, and detailed effort tracking across all development phases. Users can seamlessly input project descriptions, manage team members, document risks, enter both functional and non-functional requirements, and track time spent on various development activities. The reporting functionality offers clear visualizations of effort distribution, helping teams make it easier to identify slowdowns and streamline resource use. Through effective collaboration and remaining consistent to our project plan, we delivered all core functionalities while overcoming technical challenges. The resulting system enhances project transparency and efficiency by providing a structured approach to tracking development progress, risk assessment, and team contributions.

6. References

- SWE 4663 Course Materials and Project Requirements Document