SOEN 6841 SOFTWARE PROJECT MANAGEMENT

Software Solution Project Plan

Group No: 26

Group Members Names:

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Project GitHub Repository:

https://github.com/mahimrahman/SOEN-6841-Software-Project-Management

THE PROJECT REPORT IS PREPARED FOR
SOEN 6841 SOFTWARE PROJECT MANAGEMENT GROUP PROJECT
WINTER 2024

Contents

Project Overview

- **Project Name:** ColabFlow
- **Development Methodology:** Incremental Software Development
- **Responsible Organization:** COMP 6841, Concordia University
- **Current Version:** 1.0

Project Timeline

- **Start Date:** May 1, 2024
- **End Date:** December 2nd, 2026(including buffer time)

Total Time to Complete Project

Total Time = 32 Months (30 Months+ 2 Months of buffer time).

Milestones

Iteration 1: Requirements & UI

Milestone 1.1: Detailed SRS document

Milestone 1.2: General UI & Dashboard

Iteration 2: Task Management Functionality

Milestone 2.1: CRUD Task functionality

Milestone 2.2: Organize Task functionality

Milestone 2.3: CRUD Project Plan functionality

Milestone 2.4: Assign Task to User functionality

Milestone 2.5: View Project Calendar functionality

Milestone 2.6: View Project Deadlines functionality

Iteration 3: Graphic Collaboration System View

Milestone 3.1: Create Project functionality

Milestone 3.2: Assign People to Project functionality

Milestone 3.3: Edit Project Access Rights functionality

Milestone 3.4: View Project functionality

Milestone 3.5: View Project Changelog functionality

Iteration 4: Tech Collaboration System View

Milestone 4.1: Create Project functionality

Milestone 4.2: Assign People to Project functionality

Milestone 4.3: Edit Project Access Rights functionality

Milestone 4.4: View Project functionality

Milestone 4.5: View Project Changelog functionality

Iteration 5: Text-based Collaboration System View

Milestone 5.1: Create Project functionality

Milestone 5.2: Assign People to Project functionality

Milestone 5.3: Edit Project Access Rights functionality

Milestone 5.4: View Project functionality

Milestone 5.5: View Project Change log functionality

Iteration 6: Program Tracking Functionality

Milestone 6.1: CRUD Milestone functionality

Milestone 6.2: CRUD Deliverable functionality

Milestone 6.3: View Project Progress functionality

Milestone 6.4: Audit Project functionality

Milestone 6.5: Update Project Status functionality

Iteration 7: Version Control Functionality

Milestone 7.1: Request Change to Project functionality

Milestone 7.2: View Change Request functionality

Milestone 7.3: Approve/Decline Change Request functionality

Milestone 7.4: Update Project Version functionality

Milestone 7.5: Merge Versions functionality

Milestone 7.6: View Code Changes functionality

Milestone 7.7: Resolve Merge Conflicts functionality

Milestone 7.8: CRUD Project Branch functionality

Iteration 8: Teams Communication & Collaboration

Milestone 8.1: Establish Communication API functionality

Milestone 8.2: Implement Chatting Platform functionality

Milestone 8.3: Receive Notification functionality

Iteration 9: Document & Diagram Sharing

Milestone 9.1: Import Document functionality

Milestone 9.2: Export Document functionality

Milestone 9.3: Create Document functionality

Milestone 9.4: Create Diagram functionality

Milestone 9.5: Import Diagram functionality

Milestone 9.6: Export Diagram functionality

Iteration 10: Authentication

Milestone 10.1: Login functionality

Milestone 10.2: Registration functionality

Iteration 11: Integration with Other Tools

Milestone 11.1: Create Template functionality

Milestone 11.2: Import Template functionality

Milestone 11.3: Create API for Tools functionality

Project Phases, Timelines, and Milestones:
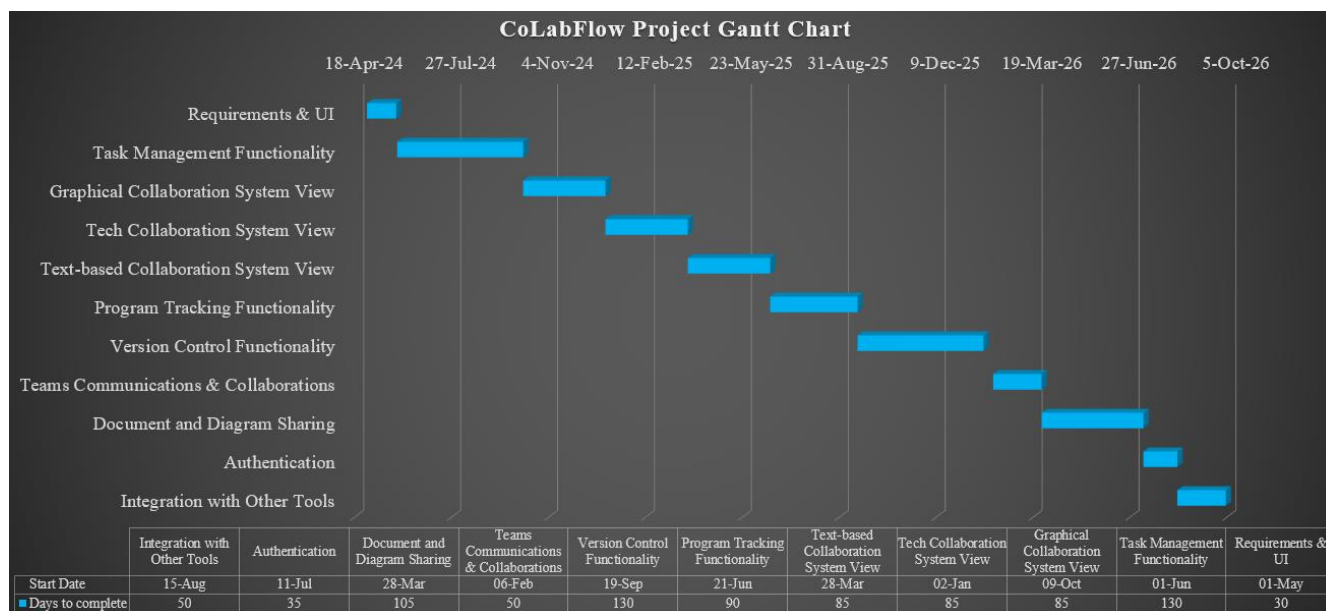
Iterations	Duration	Start Date	End Date
Requirements & UI	30 days	May 1st, 2024	May 31st, 2024
Task Management Functionality	130 days	June 1st, 2024	October 8th, 2024
Graphical Collaboration System View	85 days	October 9th, 2024	January 1st, 2025
Tech Collaboration System View	85 days	January 2nd, 2025	March 27th, 2025
Text-based Collaboration System View	85 days	March 28th, 2025	June 20th, 2025
Program Tracking Functionality	90 days	June 21st, 2025	September 18th, 202
Version Control Functionality	130 days	September 19th, 2025	February 5th, 2026
Teams Communications & Collaborations	50 days	February 6th, 2026	March 27th, 2026
Document and Diagram Sharing	105 days	March 28th, 2026	July 10th, 2026
Authentication	35 days	July 11th, 2026	August 14th, 2026
Integration with Other Tools	50 days	August 15th, 2026	October 3rd, 2026

Iteration 1: Requirements & UI

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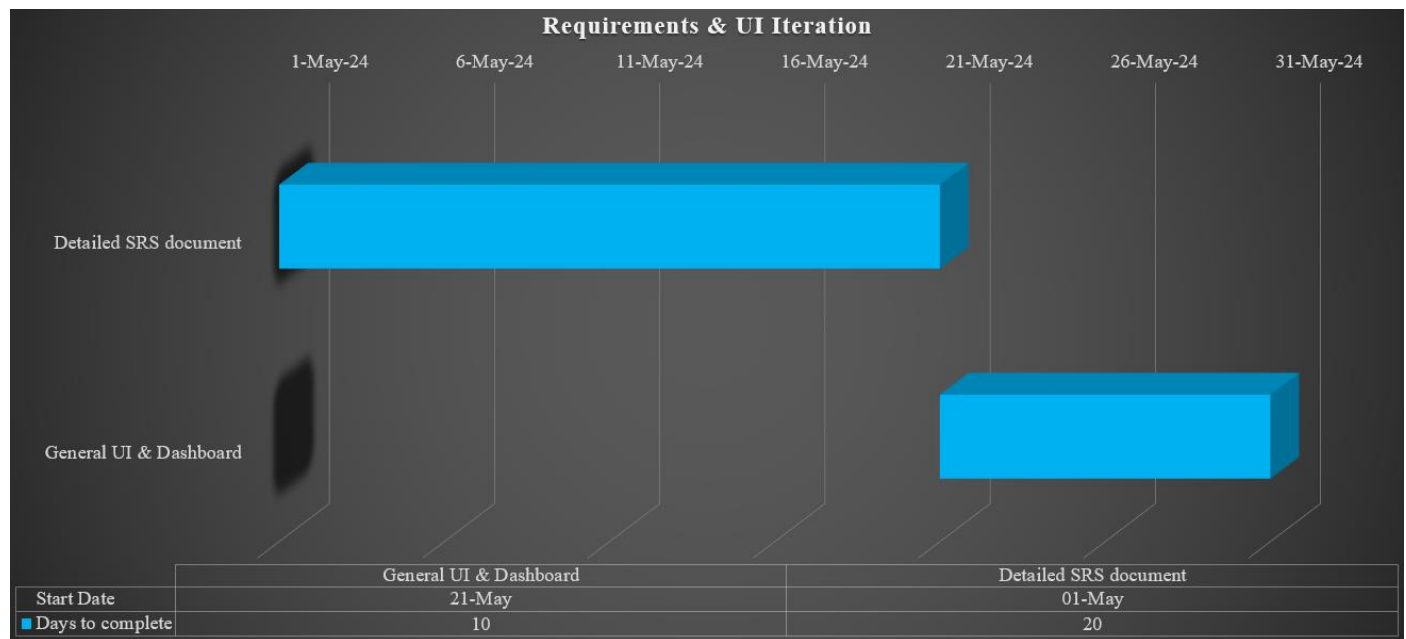
Task	Duration (days)	Start Date	End Date	Milestones
Detailed SRS document	20	2024-05-01	2024-05-20	Milestone 1.1
General UI & Dashboard	10	2024-05-21	2024-05-31	Milestone 1.2

Iteration 2: Task Management Functionality

Task	Duration (days)	Start Date	End Date	Milestones
CRUD Task functionality	40	2024-06-01	2024-07-10	Milestone 2.1
Organize Task functionality	20	2024-07-11	2024-07-30	Milestone 2.2
CRUD Project Plan functionality	20	2024-07-31	2024-08-19	Milestone 2.3
Assign Task to User functionality	20	2024-08-20	2024-09-08	Milestone 2.4
View Project Calendar functionality	15	2024-09-09	2024-09-23	Milestone 2.5
View Project Deadlines functionality	15	2024-09-24	2024-10-08	Milestone 2.6

Iteration 3: Graphical Collaboration System View
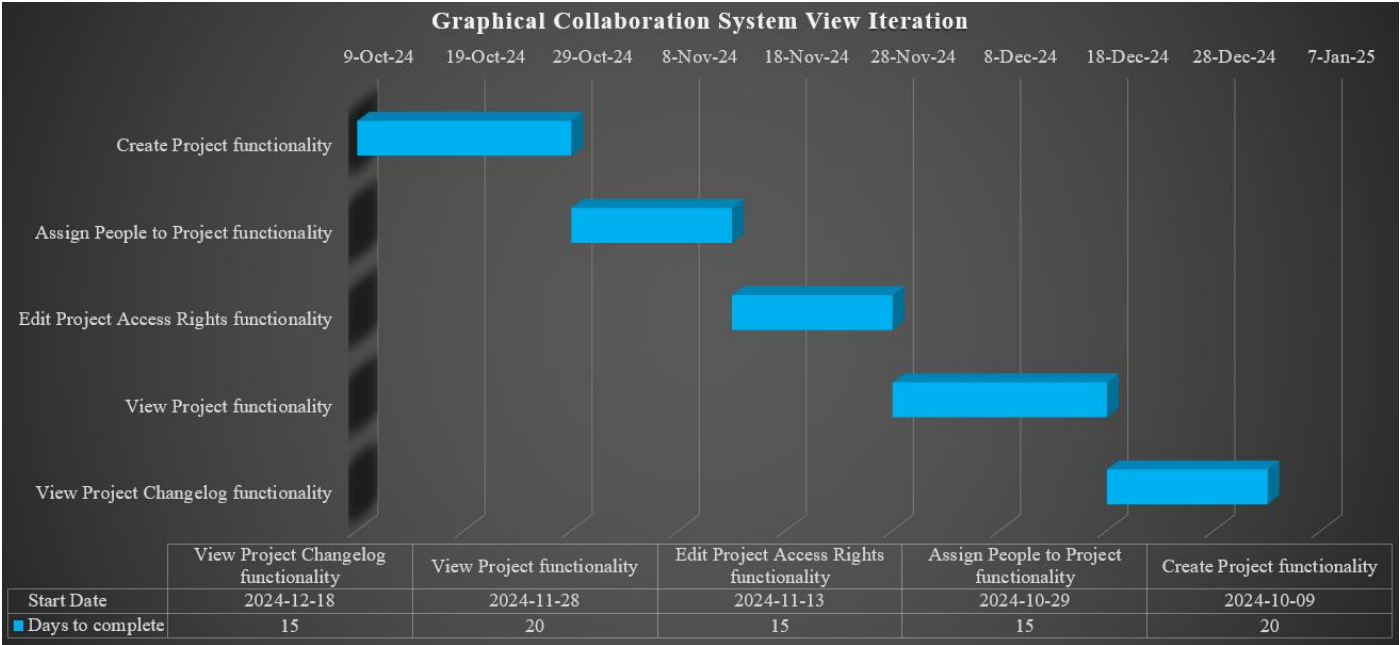
Task	Duration (days)	Start Date	End Date	Milestones
Create Project functionality	20	2024-10-09	2024-10-28	Milestone 3.1
Assign People to Project functionality	15	2024-10-29	2024-11-12	Milestone 3.2
Edit Project Access Rights functionality	15	2024-11-13	2024-11-27	Milestone 3.3
View Project functionality	20	2024-11-28	2024-12-17	Milestone 3.4
View Project Changelog functionality	15	2024-12-18	2025-01-01	Milestone 3.5

Iteration 4: Tech Collaboration System View

Task	Duration (days)	Start Date	End Date	Milestones
Create Project functionality	20	2025-01-02	2025-01-21	Milestone 4.1
Assign People to Project functionality	15	2025-01-22	2025-02-05	Milestone 4.2
Edit Project Access Rights functionality	15	2025-02-06	2025-02-20	Milestone 4.3
View Project functionality	20	2025-02-21	2025-03-12	Milestone 4.4
View Project Changelog functionality	15	2025-03-13	2025-03-27	Milestone 4.5
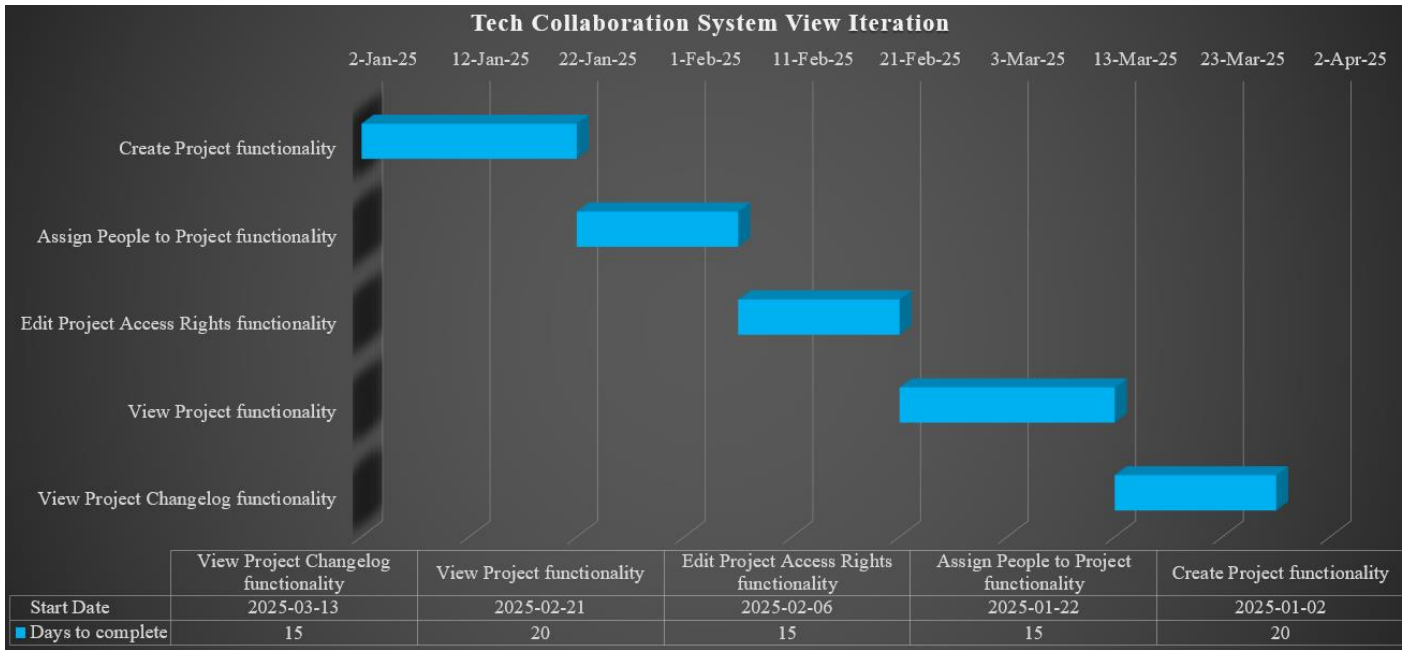
Tech Collaboration System View Iteration

	View Project Changelog functionality	View Project functionality	Edit Project Access Rights functionality	Assign People to Project functionality	Create Project functionality
Start Date	2025-03-13	2025-02-21	2025-02-06	2025-01-22	2025-01-02
Days to complete	15	20	15	15	20

Iteration 5: Text-based Collaboration System View

Task	Duration (days)	Start Date	End Date	Milestones
Create Project functionality	20	2025-03-28	2025-04-16	Milestone 5.1
Assign People to Project functionality	15	2025-04-17	2025-05-01	Milestone 5.2
Edit Project Access Rights functionality	15	2025-05-02	2025-05-16	Milestone 5.3
View Project functionality	20	2025-05-17	2025-06-05	Milestone 5.4
View Project Changelog functionality	15	2025-06-06	2025-06-20	Milestone 5.5

Text-based Collaboration System View Iteration

	View Project Changelog functionality	View Project functionality	Edit Project Access Rights functionality	Assign People to Project functionality	Create Project functionality
Start Date	2025-06-06	2025-05-17	2025-05-02	2025-04-17	2025-03-28
Days to complete	15	20	15	15	20
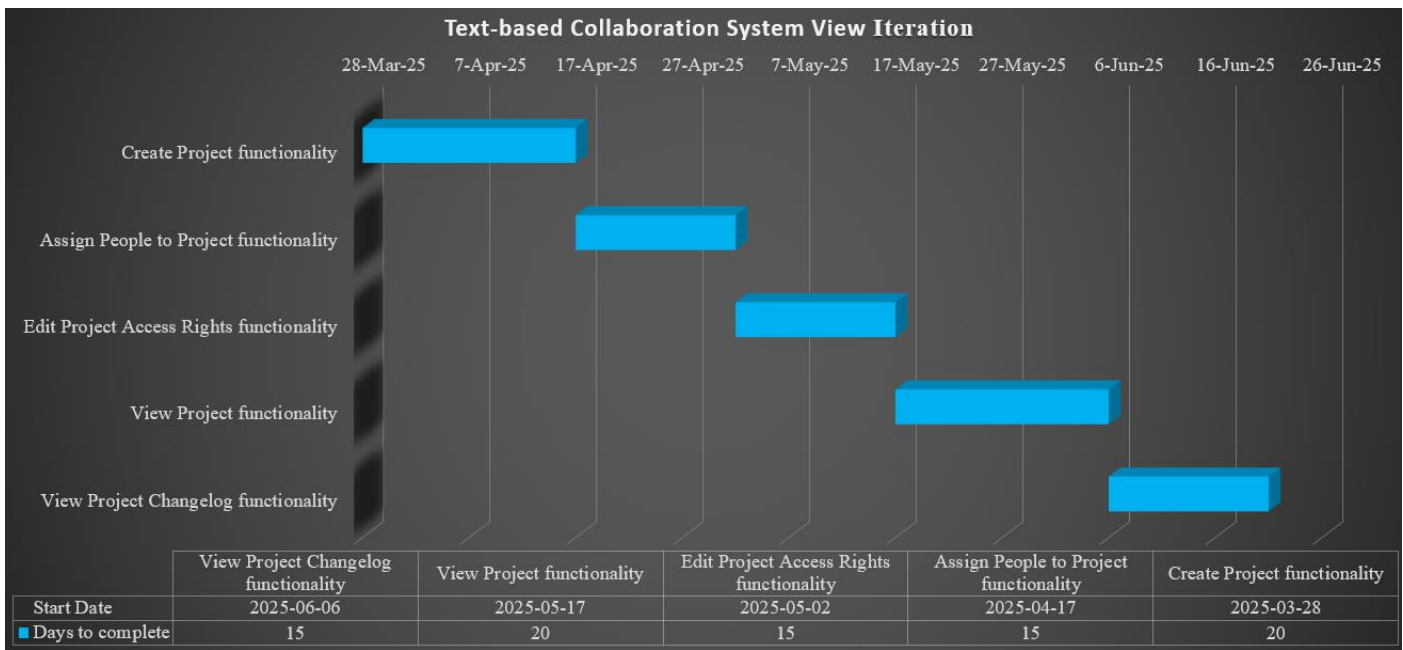
Iteration 6: Program Tracking Functionality

Task	Duration (days)	Start Date	End Date	Milestones
CRUD Milestone functionality	20	2025-06-21	2025-07-10	Milestone 6.1
CRUD Deliverable functionality	15	2025-07-11	2025-07-25	Milestone 6.2
View Project Progress functionality	20	2025-07-26	2025-08-14	Milestone 6.3
Audit Project functionality	15	2025-08-15	2025-08-29	Milestone 6.4
Update Project Status functionality	20	2025-08-30	2025-09-18	Milestone 6.5

Program Tracking Functionality Iteration

	View Project Changelog functionality	View Project functionality	Edit Project Access Rights functionality	Assign People to Project functionality	Create Project functionality
Start Date	2025-06-06	2025-05-17	2025-05-02	2025-04-17	2025-03-28
Days to complete	15	20	15	15	20
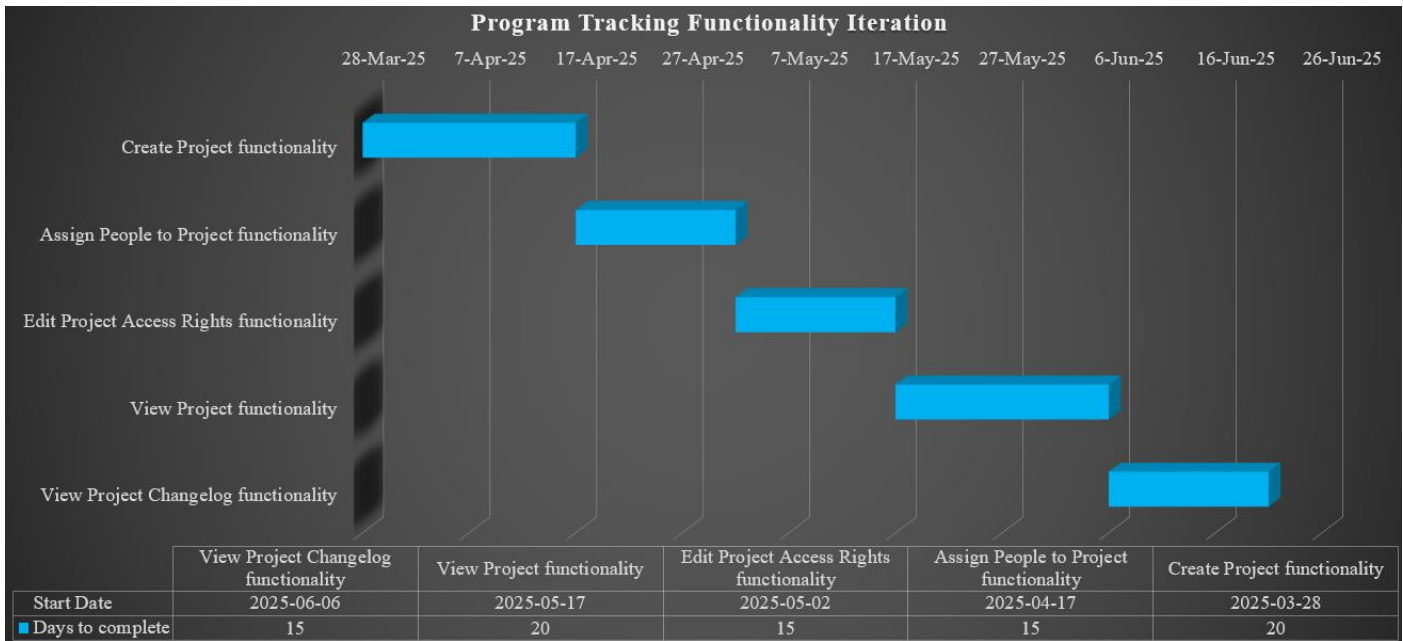
Iteration 7: Version Control Functionality

Task	Duration (days)	Start Date	End Date	Milestones
Request Change to Project functionality	20	2025-09-19	2025-10-08	Milestone 7.1
View Change Request functionality	15	2025-10-09	2025-10-23	Milestone 7.2

Version Control Functionality Iteration

	CRUD Project Branch functionality	Resolve Merge Conflicts functionality	View Code Changes functionality	Merge Versions functionality	Update Project Version functionality	Approve/Decline Change Request functionality	View Change Request functionality	Request Change to Project functionality
Start Date	2026-01-17	2026-01-02	2025-12-13	2025-11-28	2025-11-08	2025-10-24	2025-10-09	2025-09-19
Days to complete	20	15	20	15	20	15	15	20

Task	Duration	Start Date	End Date	Milestones
Approve/Decline Change Request functionality	15	2025-10-24	2025-11-07	Milestone 7.3
Update Project Version functionality	20	2025-11-08	2025-11-27	Milestone 7.4
Merge Versions functionality	15	2025-11-28	2025-12-12	Milestone 7.5
View Code Changes functionality	20	2025-12-13	2026-01-01	Milestone 7.6
Resolve Merge Conflicts functionality	15	2026-01-02	2026-01-16	Milestone 7.7
CRUD Project Branch functionality	20	2026-01-17	2026-02-05	Milestone 7.8

Iteration 8: Teams Communications & Collaborations

Task	Duration (days)	Start Date	End Date	Milestones
Establish Communication API functionality	20	2026-02-06	2026-02-25	Milestone 8.1

Teams Communications & Collaborations Iteration

	Receive Notification functionality	Implement Chatting Platform functionality	Establish Communication API functionality
Start Date	2026-03-13	2026-02-26	2026-02-06
Days to complete	15	15	20
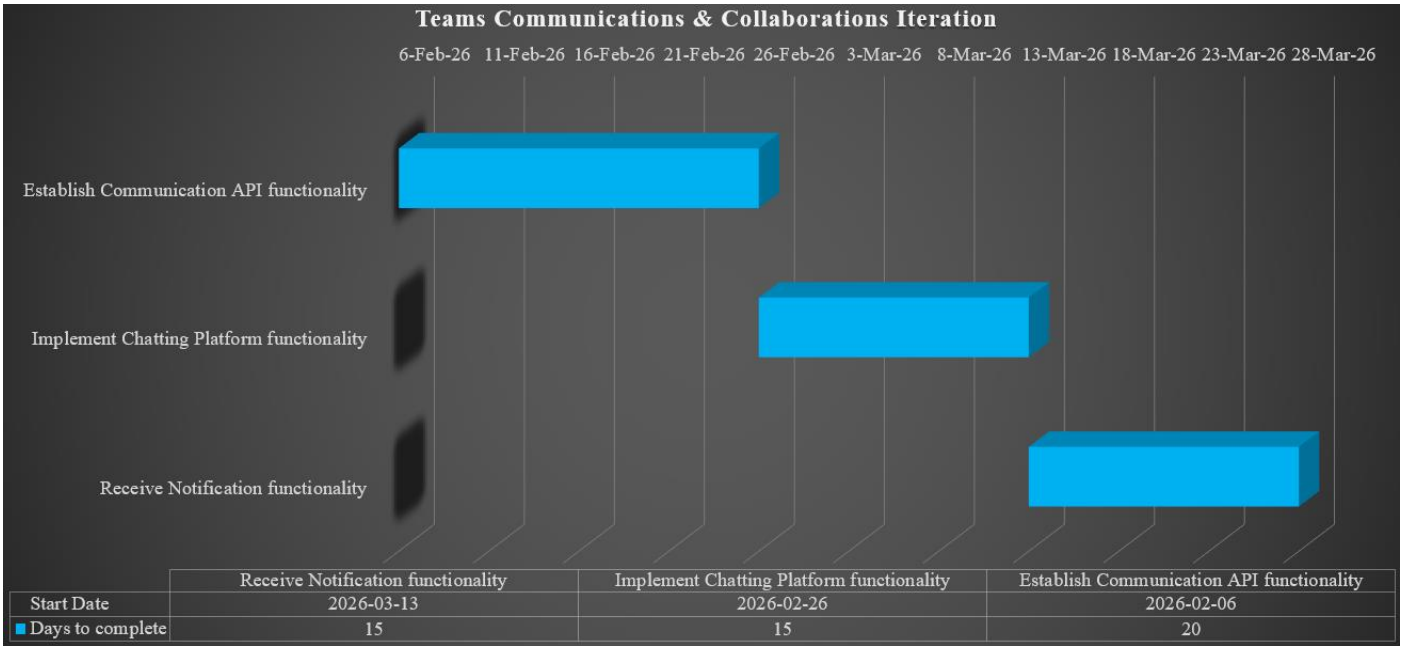
Implement Chatting Platform functionality	15	2026-02-26	2026-03-12	Milestone 8.2
Receive Notification functionality	15	2026-03-13	2026-03-27	Milestone 8.3

Iteration 9: Document and Diagram Sharing
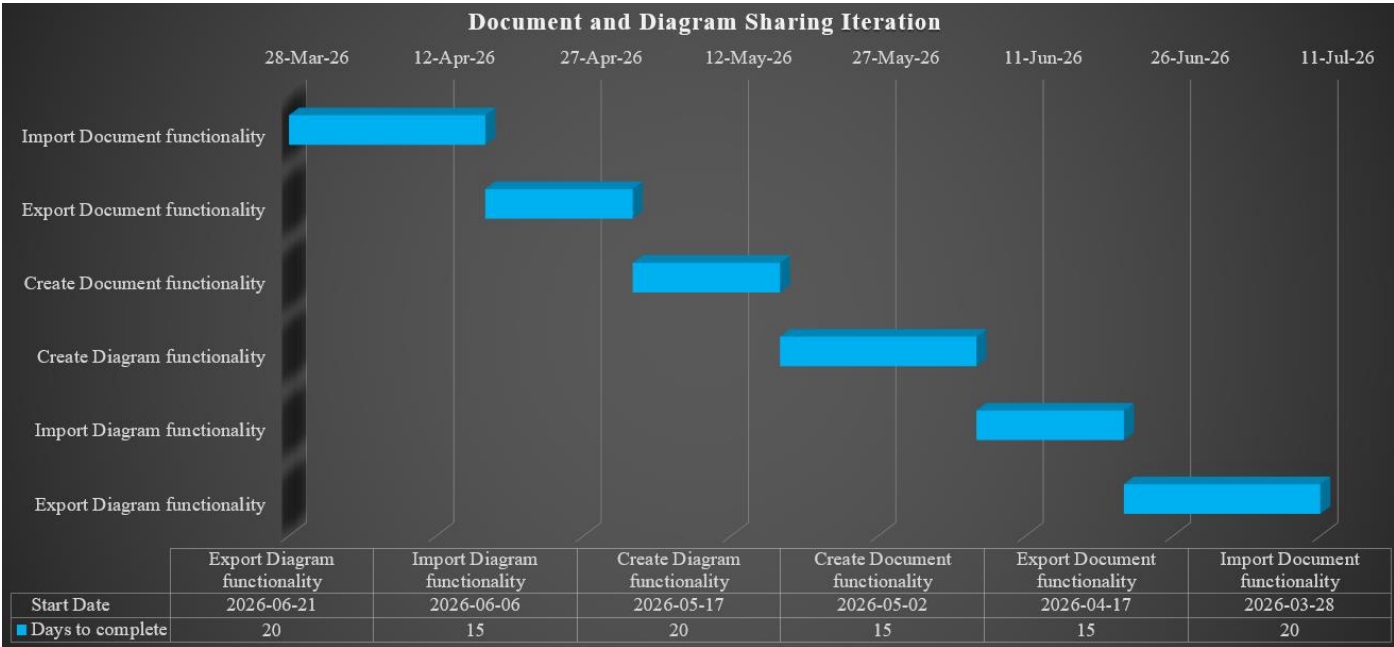
Task	Duration (days)	Start Date	End Date	Milestones
Import Document functionality	20	2026-03-28	2026-04-16	Milestone 9.1
Export Document functionality	15	2026-04-17	2026-05-01	Milestone 9.2
Create Document functionality	15	2026-05-02	2026-05-16	Milestone 9.3
Create Diagram functionality	20	2026-05-17	2026-06-05	Milestone 9.4
Import Diagram functionality	15	2026-06-06	2026-06-20	Milestone 9.5
Export Diagram functionality	20	2026-06-21	2026-07-10	Milestone 9.6

Iteration 10: Authentication

Task	Duration (days)	Start Date	End Date	Milestones
Login functionality	20	2026-07-11	2026-07-30	Milestone 10.1
Registration functionality	15	2026-07-31	2026-08-14	Milestone 10.2

Authentication Iteration

	Registration functionality	Login functionality
Start Date	2026-07-31	2026-07-11
■ Days to complete	15	20
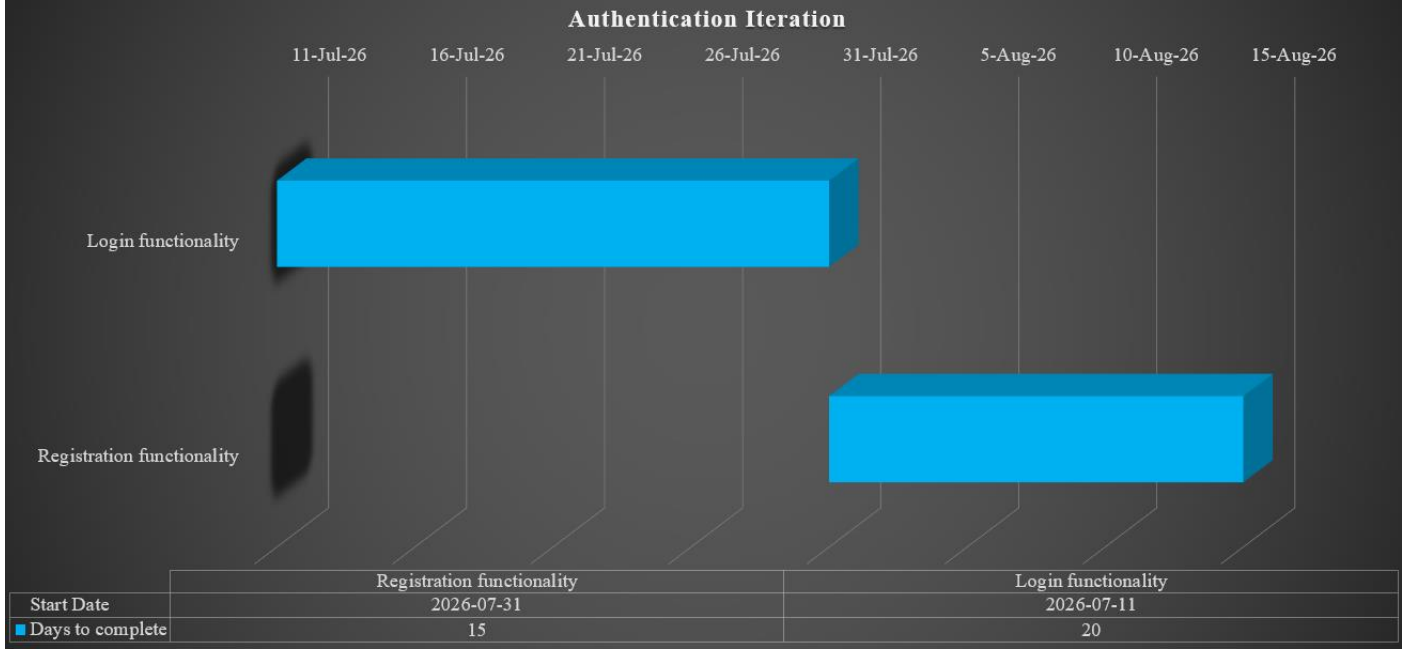
Iteration 11: Integration with Other Tools

Task	Duration (days)	Start Date	End Date	Milestones
Create Template functionality	20	2026-08-15	2026-09-03	Milestone 11.1
Import Template functionality	15	2026-09-04	2026-09-18	Milestone 11.2
Create API for Tools functionality	15	2026-09-19	2026-10-03	Milestone 11.3

Integration with Other Tools Iteration

	Create API for Tools functionality	Import Template functionality	Create Template functionality
Start Date	2026-09-19	2026-09-04	2026-08-15
■ Days to complete	15	15	20
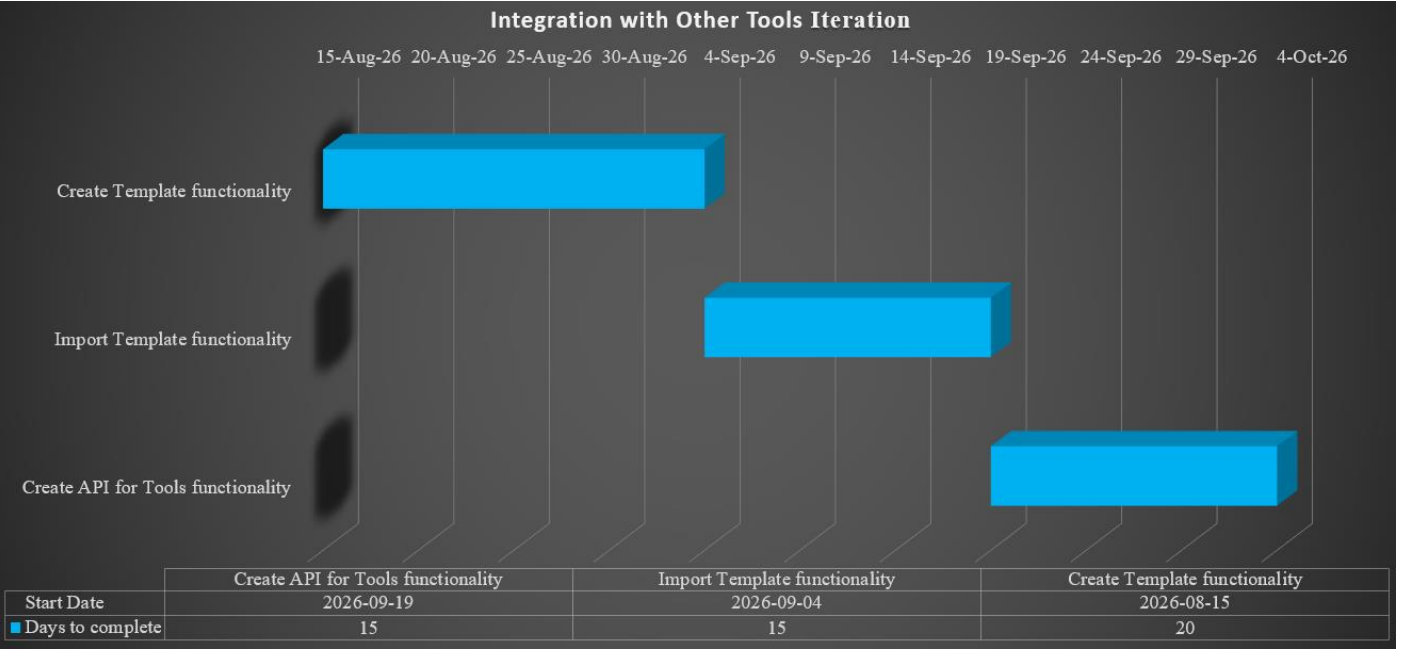
System Features:

- Different Dashboards for different types of projects
- Choosing of project type starting every project
- Customizable UI
- Version Control
- The user shall be able to import and export documents, files, and diagrams in various formats
- The user shall be able to perform auditing by tracking the current progress of the project and comparing it with the provided tasks and requirements
- Time management feature
- Task Prioritization
- Monitor progress
- Branching & PR Review
- Diagram Generator
- In-built chatting feature
- In-built meeting integration

App Features:

- Real-time Synced data with the system
- Chatting Feature to separate project chats and priorities from personal life
- Meeting Feature to join anytime anywhere
- Real-time notification
- Pending Tasks
- Office Calendar

Major Project Milestones

1. **Finalization of System Requirements Document (Milestone 1.1):**
   - Detailed system requirements document with user stories and functionalities finalized.
   - Milestone achieved by completing Iteration 1.
2. **Obtain Stakeholder and User Approval (Milestone 1.2):**
   - Stakeholder and user approval obtained for the final requirements document.
   - Milestone achieved after Milestone 1.1.
3. **Completion of Design and Architecture (Milestone 2):**
   - System architecture diagram and high-level component design completed.
   - UI mockups, wireframes, database schema, and detailed design documents finished.
   - Achieved after completing Iteration 2.

4. **Complete Front-end Development (Milestone 3):**
   o Core user interface components and functionalities developed.
   o User authentication, authorization features, and UI integrated with back-end services.
   o Basic UI testing and user acceptance testing (UAT) conducted.
   o Achieved after completing Iteration 3.

5. **Complete Back-end Development (Milestone 4):**
   o API endpoints for core functionalities implemented.
   o User management features, access control mechanisms, and integration with external services completed.
   o Back-end unit testing and integration testing conducted.
   o Achieved after completing Iteration 4.

6. **Deploy Application on Web Server (Milestone 5):**
   o Application successfully deployed on the AWS cloud platform.
   o Security settings configured and performance testing conducted.
   o Achieved after completing Iteration 5.

7. **Complete Software Testing (Milestone 6):**
   o System-wide integration testing, system testing, performance testing, and stress testing executed.
   o All identified bugs and defects addressed and fixed.
   o Achieved after completing Iterations 6 and 7.

8. **Launch First Version (Milestone 7):**
   o First version of ColabFlow launched with all features available for limited user access.
   o Achieved after completing Iteration 8.

9. **Ongoing Maintenance & Monitoring (Milestone 8):**
   o Continuous support, updates, and monitoring of the deployed application.
   o Achieved after project deployment.

Deliverables at Each Project Phase

1. **System Requirements Document:**
   - Detailed document outlining project features, user stories, and functionalities.
2. **Design and Architecture Documents:**
   - System architecture diagram, high-level component design, UI mockups, wireframes, database schema, and detailed design documents.
3. **Front-end Components:**
   - Core user interface components and functionalities developed.
4. **Back-end Services:**
   - API endpoints for core functionalities, user management features, access control mechanisms, and integration with external services.
5. **Deployed Application:**
   - Application successfully deployed on the AWS cloud platform with configured security settings.
6. **Software Testing Reports:**
   - Reports documenting system-wide integration testing, system testing, performance testing, and stress testing results.
7. **First Version Launch:**
   - First version of ColabFlow launched with all features available for limited user access.
8. **Maintenance & Monitoring Plan:**
   - Plan for ongoing support, updates, and monitoring of the deployed application.

Resource Allocation:

Human Resources Allocation:

Iteration 1: Requirements & UI

o Senior Software Engineer: 2

o UI/UX Designer: 2

Iteration 2: Task Management Functionality

o Senior Software Engineer: 2

o Back-end Developer: 4

o Quality Assurance Personnel: 1

Iteration 3: Graphic Collaboration System View

o Senior Software Engineer: 2

o Back-end Developer: 4

o Quality Assurance Personnel: 1

Iteration 4: Tech Collaboration System View

o Senior Software Engineer: 2

o Back-end Developer: 4

o Quality Assurance Personnel: 1

Iteration 5: Text-based Collaboration System View

o Senior Software Engineer: 2

o Back-end Developer: 4

o Quality Assurance Personnel: 1

Iteration 6: Program Tracking Functionality

o Senior Software Engineer: 2

o Back-end Developer: 4

o Quality Assurance Personnel: 1

Iteration 7: Version Control Functionality

o Senior Software Engineer: 2

o Back-end Developer: 4

o Quality Assurance Personnel: 1

Iteration 8: Teams Communication & Collaboration

o Senior Software Engineer: 2

o Full-Stack Developer: 2

o Quality Assurance Personnel: 1

Iteration 9: Document & Diagram Sharing

- o Senior Software Engineer: 2
- o Full-Stack Developer: 2
- o Quality Assurance Personnel: 1

Iteration 10: Authentication

- o Senior Software Engineer: 2
- o Full-Stack Developer: 2
- o Quality Assurance Personnel: 1

Iteration 11: Integration with Other Tools

- o Senior Software Engineer: 2
- o Full-Stack Developer: 2
- o Quality Assurance Personnel: 1

Technological Resources Allocation:

Phase 1: Requirements Elicitation

- No technological costs specified

Phase 2: Design & Architecture

- Adobe Licenses: $708
- SSL License: $100

Phase 3: Front-end Implementation

- Adobe Licenses: $708

Phase 4: Back-end Implementation

- Servers: $10,500
- Emergency Bug Fixes/Updates: $5,000

Phase 5: Web Hosting

- Servers: $10,500
- SSL License: $100
- AWS Subscription: $0.5

Phase 6: Software Testing

- No specific technological costs specified, but emergency bug fixes/updates may apply if needed.

Phase 7: Deployment

- No specific technological costs specified

Phase 8: Maintenance & Monitoring
- No specific technological costs specified

Identification of Critical Dependencies

1. **Requirements Gathering**: Each iteration depends on clear and well-defined requirements to proceed. Without a solid understanding of the requirements for each functionality, development may face delays or rework.
2. **Design & Architecture**: The design and architecture phase must be completed before development begins for each iteration. Without a proper design, developers may encounter roadblocks or inconsistencies during implementation.
3. **Resource Availability**: Availability of resources such as developers, designers, and testers is critical for each iteration. Dependencies on resource availability can affect the timeline of iterations.
4. **Technology Stack**: Dependencies on specific technologies or tools required for development, testing, deployment, and hosting need to be identified. Any delays or issues related to these technologies can impact the progress of iterations.
5. **Feedback and Iteration Review**: Iterative development relies on feedback loops and iteration reviews to incorporate changes and improvements. Dependencies on stakeholder feedback and review cycles need to be managed effectively to avoid delays.
6. **Integration Points**: Dependencies on external systems or services for integration need to be identified early. Delays or issues with integration points can hinder the progress of iterations.
7. **Quality Assurance**: Dependencies on quality assurance and testing activities are critical for ensuring the functionality and stability of each iteration. Testing needs to be conducted efficiently to meet the iteration timelines.
8. **Documentation and Knowledge Transfer**: Dependencies on documentation and knowledge transfer activities are important for maintaining continuity between iterations and ensuring the scalability of the project.
9. **Risk Management**: Dependencies on risk management activities need to be identified and addressed proactively to mitigate potential risks that could impact the progress of iterations.