

Team 4 - CHECKERS Team

Project Planning Document

Project Timeline - Checkers Team

This timeline will cover the planning aspect of all tasks within the CHECKER branch. Each member is expected to contribute 3×45 minutes per week.

Planning and Design

Create planning documents for CHECKER branch

- Create an outline and rough dates for when tasks are estimated to be finished.

Deadline: March 7, 2025

Design use case diagrams

- Create draft then create final of the use case diagrams.

Deadline: March 7, 2025

Design class structure diagrams

- Create a general class structure diagram for classes in CHECKER.

Deadline: March 7, 2025

Create use case descriptions document

- Identify and provide details to different use cases.

Deadline: March 7, 2025

Review and submit documents for iteration 1

- Team review, spell checking, format checking, proofread, then submit to D2L dropbox.

Deadline: March 7, 2025

Milestones:

Team 4 - Iteration 1: March 7, 2025

Development and Implementation

Objective: Develop and implement a Checkers game with interactive gameplay that stays true to the original board game.

Duration: March 8, 2025 - April 11, 2025 (Post-Iteration 1 to Iteration 3 deadline)

Key Features:

- Two players take turns moving pieces
- 8x8 game board to accurately simulate board game
- Regular pieces move diagonally in one direction, kings can move diagonally in both directions
- Pieces “jump” over opponent pieces to capture them
- Integrate with GUI and other systems

The Development and Implementation will be divided into phases: Setup, Core Development, Integration, Testing, and Review. Tasks are assigned to balance workload among all team members.

Phase 1: Setup

Duration: March 8, 2025 - March 12, 2025

Goal: Establish rough skeleton code and finalize design for Checkers

Task List:

Git Repository Setup

- Start Date: March 8, 2025
- End Date: March 8, 2025
- Estimated Time: 1 hour

Finalize class structure design: Adjust class diagram based on feedback

- Start Date: March 9, 2025
- End Date: March 10, 2025
- Estimated Time: 3 hours

Plan GUI: Create a sketch for the Checkers GUI

- Start Date: March 11, 2025
- End Date: March 12, 2025
- Estimated Time: 3 hours

Milestones:

Setup Complete: March 12, 2025

Phase 2: Core Development

Duration: March 13, 2025 - March 25, 2025

Goal: Implement core systems for Checkers

Task List:

Implement game board to accurately simulate board game

- Start Date: March 13, 2025
- End Date: March 16, 2025
- Estimated Time: 5 hours

Implement core gameplay mechanics (moving pieces), piece -> king , etc

- Start Date: March 17, 2025
- End Date: March 20, 2025
- Estimated Time: 8 hours

Implement win/loss logic

- Start Date: March 21, 2025
- End Date: March 23, 2025
- Estimated Time: 8 hours

Flexible timeline to figure out any remaining issues / catch up on incomplete tasks

- Start Date: March 24, 2025
- End Date: March 25, 2025
- Estimated Time: To be further discussed with team members

Milestones:

Core Development Complete: March 25, 2025

Phase 3: Integration

Duration: March 26, 2025 - April 2, 2025

Goal: Integrate the Checkers game with main GUI

Task List:

Integrate Checkers game with GameWindow

- Start Date: March 26, 2025
- End Date: March 28, 2025
- Estimated Time: 6 hours

Verification of UI integration

- Start Date: March 28, 2025
- End Date: March 29, 2025
- Estimated Time: 3 hours

Final touches (bug fixes, improvements, refinements, etc)

- Start Date: March 29, 2025
- End Date: March 30, 2025
- Estimated Time: 3 hours

Flexible timeline to figure out any remaining issues / catch up on incomplete tasks

- Start Date: March 31, 2025
- End Date: April 2, 2025
- Estimated Time: To be further discussed with team members

Milestones:

GUI Integration Complete: April 2, 2025

Phase 4: Testing

Duration: April 3, 2025 - April 7, 2025

Goal: Thorough testing of Connect4 gameplay logic & GUI integration

Task List:

Create unit tests for CheckersBoard

- Start Date: April 3, 2025
- End Date: April 4, 2025
- Estimated Time: 5 hours

Create unit tests for CheckersGame

- Start Date: April 5, 2025
- End Date: April 6, 2025
- Estimated Time: 5 hours

GUI integration tests

- Start Date: April 6, 2025
- End Date: April 7, 2025
- Estimated Time: 3 hours

Milestones:

Unit Testing Complete: April 7, 2025

Phase 5: Review

Duration: April 7, 2025 - April 11, 2025

Goal: Finalize all code, fixes and prepare for final submission

Task List:

Full Code Review

- Start Date: April 7, 2025
- End Date: April 9, 2025
- Estimated Time: 3 hours

Documentation Update + Final Checks

- Start Date: April 9, 2025
- End Date: April 9, 2025
- Estimated Time: 3 hours

Record Video Demonstration for Submission

- Start Date: April 9, 2025
- End Date: April 10, 2025
- Estimated Time: 3 hours

Submission!

- Start Date: April 11, 2025

Milestones:

Review and Submission: April 11, 2025