

Bravo Design Review

Game Logic Team

Department of Computer Science, University of Calgary

SENG 300 Introduction to Software Engineering

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March 21, 2025

Letter to the Reviewed Team

Dear Bravo Team,

We appreciate the effort put into your design and documentation. Our review highlighted strengths as well as areas for improvement, detailed below.

General Critique of the Design

Your project contains well-structured use case diagrams and descriptions that effectively describe expected system behavior. However, some inconsistencies and gaps in integration need to be addressed:

- **Completeness of Game Diagrams:** Chess and Connect4 include full diagrams, but Go and TicTacToe lack completeness. Go only contains a use case description and diagram, while TicTacToe is missing game logic details.
- **Consistency & Organization:** Diagrams should be compiled together with consistent naming conventions to improve clarity and cross-referencing.
- **Integration Class Diagram Issues:** References to non-existent functions and missing connections make it unclear if different sections are properly linked.
- **Class Diagram Challenges:** Floating, unlinked classes reduce clarity, and overcomplicated diagrams could be simplified where interfaces are used by a single class.
- **System Gaps:** Some components are not designed to interact, such as game logic functions missing in the integration diagram.

Diagram Corrections/Changes

We have annotated several diagrams where necessary changes should be made:

- **GUI Elements:** Suggested improving the sign-up process by requesting an email for verification. The class diagram appears to be missing update functions for the game display.
- **Authentication Class Diagram:** A class inherits another unnecessarily. Further clarity on function connections would improve readability.
- **Matchmaking Class Diagram:** Lacks specific error handling and a "Cancel Matching" function. It also fails to notify both players when a match is found.
- **Leaderboard and Matchmaking:** Rank attributes need clarification, and dependencies between AbstractGame and MatchmakingLogic require further explanation.
- **Integration Class Diagram:** Lacks connections between key sections such as authentication and game session initiation.
- **Chess Class Diagram:** Needs better handling of special moves and status checks for check and checkmate.
- **Chat Use Case Diagram:** Overlapping arrows reduce readability. Suggested improvements include adding a blocking/reporting system.
- **TicTacToe Use Case Description:** Needs to better address tie handling and player disconnections.
- **Synchronization Use Case Diagram:** Synchronization steps should be expanded to clarify processes and triggers.

Feature Requests

We propose two major improvements to enhance functionality:

1. **Temporary Match Histories:** Allow guest users to create profiles post-match and retain match records.
2. **Enhanced Error Handling:** Implement better handling for login failures, server disconnections, and failed matchmaking attempts across all relevant diagrams.

Constructive Feedback

- **Improve Diagram Readability:** Reduce overlapping arrows and use grouping for clarity.
- **Expand User Interactions:** Ensure that all user actions beyond dashboards and menus are detailed, particularly for in-game interactions.
- **Clarify Integration Between Diagrams:** Ensure referenced functions exist across all related diagrams for consistency.
- **Ensure Proper Use of Interfaces:** Avoid redundant interfaces that serve single functions.

Your project demonstrates a strong foundation, and with these adjustments, it will achieve better clarity, usability, and maintainability. Thank you for your hard work!

Sincerely,
Bravo Design Review Team