

March 21, 2025

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## 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 Review Team**