# Feature Proposal Document – Bravo

**Project**: Online Multiplayer Board Game Platform (OMG)

**Date**: March 21, 2025

## Feature 1: Turn Timer System

### High-Level Description

- A display in each of the games that shows whose turn it is and the time remaining for each player.
- The time controls used can be arbitrary but standard time controls used for chess, connect four, go and tic-tac-toe online play is recommended.
- The consequence of a time-out is an automatic loss as expected and the opponent wins by a timeout
- Each player has a set time per turn to make a move, a 10 second grace-period can be applied just in case the move isn't received due to a lag

### Expected Impact on the System

This feature will impact the player by not allowing them to hold other players indefinitely keeping the game going at an enjoyable pace.

It will have an impact on the workload on:

- **Logic team**: Game logic will need to handle timers, lags and auto-timeouts
- **GUI team**: The UI will need to show a visible timer for each player
- **Statistics team (leaderboard)**: It should track wins and losses due to timeouts (just a consideration)

### Suggestions for Implementation or Design

**Game Logic**:

- Implement fields in the Player class that keep track of the player's time
- Use a timer class to manage countdowns and timeouts and implement getter and setter methods for accessing time
- Modify the game loop to enforce time limits per move

**GUI design**:

- Display the turn timer on the screen and show a warning when the time is running low
- An error should be displayed if player has network lags

**Leaderboard**:

- Contain additional fields containing information on wins via time-outs, losses via time-outs and their corresponding ratios

# Feature 2: Restrict Spammers, Avoid Exploitation of Guest Account, Block & Restrict other players, Create Database of restricted words/phrases

## High-Level Description

- Players are temporarily blocked from chatting if they send too many messages in a row (or if they send too many characters). They can also be blocked from requesting to join games if they have too many pending requests. Guest accounts are given much stricter limits for (or completely restricted from) chatting and game requests.
- Players can also block and restrict other players from chatting and/or requesting to play. A list of restricted words/phrases are kept players cannot use the words in their username and those words will be censored if players send it in the chat.

## Expected Impact on the System

These features help combat abuse and harassment and make the platform safer and better to use.

Changes will have to be made to the accounts, GUI, and game logic sections of the code which include:

**Game logic team**: keeping track of who last messaged and how many messages/characters they send, how many unanswered game requests have been sent, setting limits for messages/requests for normal and guest accounts, keeping track of what accounts are blocked and for what reason, update Player class to track the blocked users, restricted messages etc.

**GUI team**: Need to allow players to block others, keep a list of blocked words, and implement the language processing necessary to block those words.

## Suggestions for Implementation or Design

**Game logic team**:
- Keep track of the last player who sent a message, how many characters and messages they sent.
- If a player exceeds message limits create a block request and block them from chatting
- Keep track of game requests a player sends, increase request count when they send in a request and decrease when the request is accepted or denied. Once they reach request limit create a block request to prevent them from sending more requests

**Authentication and Profile Team**:
- Maintains a list of block requests in user/profile class, each block request consists of what features are blocked, when it expires, and the reason why it was created (e.g. chat spam, player reported

**GUI team**:
- Add a 'Block Player' button during gameplay and when they search for players
- Allow players to tun search filter on and off

**Networking Team**:
- If a player is blocked by another player, create a block request to prevent chat and game requests between them.
- Filter messages and usernames for restricted words.
- Implement a balanced filtering system that avoids unintended censorship. (read on the Scunthorpe problem)