Game Screens Overview - Game Logic team   March 29, 2025
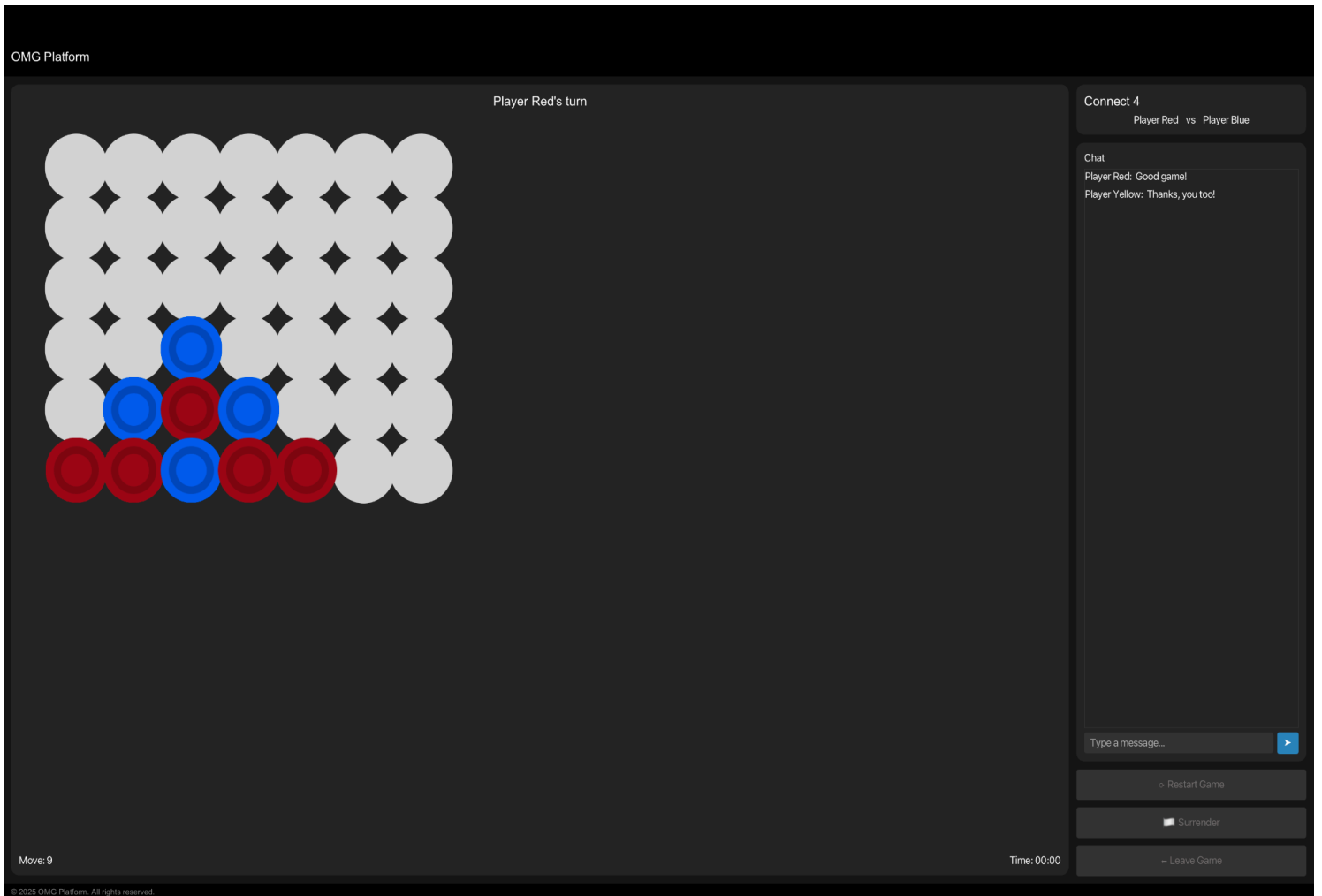

1. **Tic-Tac-Toe Game Screen**
   - **GUI Responsibilities:**
     - Render a 3x3 grid board.
     - Handle user input (clicks on tiles).
     - Display turn indicators and game messages (e.g., "Player X's Turn").
   - **Game Logic Responsibilities:**
     - Validate moves (ensure tile isn't already taken).
     - Return updated game state after each move.
     - Detect and report win/lose conditions.

2. Connect Four Game Screen

- **GUI Responsibilities:**
  - Render a 7x6 vertical grid.
  - Animate piece falling into the correct column.
  - Display messages for player turns and game outcomes.
- **Game Logic Responsibilities:**
  - Manage gravity-like behavior (finding correct row in column).
  - Handle move validation and win/draw detection.

3. Checkers Game Screen

- **GUI Responsibilities:**
  - Render the 8x8 board and pieces (including king visuals).
  - Enable drag-and-drop or click-to-move functionality.
  - Animate jumps and piece removal.
- **Game Logic Responsibilities:**
  - Validate complex moves (jumps, king movement).
  - Track valid paths and enforce game rules.

- ○ Identify game over scenarios.
- ● **Expected Integration:**
  - ○ GUI sends selected piece and intended destination to Game Logic.
  - ○ Game Logic validates, calculates consequences, and returns updated state.

1. Alternate Player Modes

- Will we be supporting a **computer (AI) player** option for any of the games?

    - If yes, will this logic be provided by your team?

- Will we have support for a **local (same device) 2-player mode**, where two users take turns on the same machine?

2. Game Completion Options

We're planning to support multiple ways a match can end, depending on user interaction:

- **Rematch**
  Can the Game Logic team support a feature where one player can request a rematch, and if the opponent accepts, a new game begins with the same settings?

    - What state needs to be reset or preserved for rematches?

- **Surrender / Forfeit**
  If a player chooses to surrender, can Game Logic clearly identify and report that outcome so it can be displayed and passed to the leaderboard logic?

- **Leave Game (Mutual Exit)**
  We're designing a "Leave Game" flow where:

    - A player clicks a "Leave Game" button

    - A confirmation modal appears informing them that both players must confirm

    - The game ends only when **both players** select "Leave Game"

- Can your team support this two-sided exit logic? Would you track exit status separately for each player?

3. Ranked vs Casual Mode

We're planning to support two game modes. How would this affect your logic?

- **Ranked Mode:**

    - Would your team track/report win/loss differently for ranked matches?

- **Casual Mode:**

    - Would these matches bypass certain validations or skip leaderboard tracking?

    - Can the same game session structure be used for both modes, with a mode flag?

1. **Questions RE: Two player mode and Computer player mode - will these be implemented?**
   a. Forsure **two player mode with be implemented** ✅
      i. Harder to do it with checkers?
   b. **Computer player mode =** ❌ would be a little more difficult as it will take a lot longer, therefore Computer player mode will NOT be implemented at this time.

2. **Update RE: Connect 4 - Implementation of connect 4 complete?**
   a. In progress still
   b. Tic tac toe is mostly done by now,
   c. Need to create a class that can be called in order to make the games "playable" - **Supan has been working on this**

3. **RE: In Game Screen options -Rematch, vs surrender vs leaving the game**
   a. GUI's thoughts around surrender vs leave game buttons:
      i. Surrender: when user decides themselves that they don't want to play anymore (user loses points as a result)
      ii. Leave Game: when leaving the game is "neutral" - both players need to confirm that this is what they want to do (no loss of points)
   b. **Game Logic team does not agree with both buttons**
      i. "Surrender" should be Forfeit button - player loses ELO points when forfeiting a game during "Rank" Game Mode
      ii. There should be a "Draw" button for each game instead of Leave Game: Draw function entails:
         1. When there's no more possible game actions,
         2. Board is full
         3. Checkers - end up in a situation where you have no more pieces left
         4. No valid move left, or pieces left.
   c. **RE: network connection and the player ends up leaving the game -** <mark>that would be a discussion with Network team</mark>
   d. <mark style="background-color:#5ce65c">RE: Leaderboard and matchmaking and Draws</mark>
         1. Have a calculation that does attempt for draws/elo change
         2. Neutral unless big enough difference in elo ranking (?) which would mean something
         3. RE: ranks ? - a draw should not force you to drop a rank, it wouldn't cause you a drop in rank
      - *****Something to talk about at a later date *****

4. **RE: Implementing new rules to the games?**
   a. Just traditional right now - game logic team will update GUI of any changes

5. **RE: Tie Button/ Checkers logic**
   a. Checkers - request tie button - 40 move rule in checkers ,that will take a long time, and a waste of time if it clearly a tie

      b. Timer?: 30 second timer - deciding to make a move

      c. Checkers - three repeated moves, or 40 moves go by without a capture, - game is considered a draw -

      d. Discussion RE: Reset counter - once a piece have been captured

      e. Half way through that 40 mover count, a button comes up as "would you like to request a draw" (?)

      f. **Draw and tie are the same thing**

      g. Have a draw only the 40 move rule, - give them a button after that?

      h. Both players have to agree to this - draw elo neutral, or people will take advantage of it (?)

      i. Discussion around Timer for the entire match? 10 minutes for the whole game

      j. Discussion around time turners

      k. Why do we have a timer for each move?
- Lower ELOS restrictive for new players?
- Turn counter with timer

6. **RE: All Games**

      a. Automatic draw condition - for all games

      b. Keep them normal sizes, but if you fill out the board then a draw

      c. Casual games - customizable boards make more size(?)

      d. Tic tac toe logic but talk about scaling - at a later time

7. **RE: Soft deadline:**

      a. The base of tic tac toe is mostly completed - mostly done, just timers and stuff

      b. Connect 4 logic - in the works - **April 2?**

      c. Checkers logic - **April 2 as well (**?)

8. **RE: Checkers logic:**

      a. *A specific color you were wanting for the pieces?* - conventional is okay, can be changed at a later time if desired

      b. Discussion around Logic of capturing other pieces -- multi-jumps to take to a specific spot - have a piece jump if there are more jumps, see if it can jump again
           i. Look at official rules for checkers whether to jump or not
           ii. Click on the pieces itself to pass itself
           iii. Jumps are mandatory - changes the functionality of the move checking
           iv. Discussion around highlighting certain parts of the board game,
           v. Natasha is working on Checkers Board Game - advised that Supan would be working on Checkers GUI and to reach out to him for any questions**

9. **RE: JavaFX and JUNIT**
- JUNIT 5
- JavaFX version 23.01
- Thinking about having a specific package in the project to contain the whole library
- Question was asked: **When would this be a thing?**
  - **Supan - as soon as possible**

10. RE: Miscellaneous
- Discuss game rules with checkers and reach out to GUI team at a later date

11. RE: Roadblocks (None that were spoken)

12. RE: Schedule next meeting?
      a. ==Tuesday - Quick Scrum meeting @ 1:00pm==

Meeting Summary:

- **Two-Player Mode:** ✅ Confirmed — will be implemented for all games.
- **Computer Player Mode:** ❌ Not being implemented at this time
- **RE: Tic Tac Toe:**
  - Base implementation mostly complete.
  - Next: Add timers and polish logic.
- **RE: Connect 4:**
  - Still in progress.
  - Tentative soft deadline: **April 2**
- **RE: Checkers:**
  - Board layout and logic development ongoing.
  - Natasha: Board implementation
  - Supan: GUI integration
  - Soft deadline: **April 2**
  - **Color selection for pieces: Use conventional coloring for now; customizable later if needed.**

✅ **Game Logic Consensus:**

- **Rename "Surrender" to "Forfeit" — forfeiting causes ELO loss in Ranked mode.**
- **Remove "Leave Game" — instead, implement a Draw Request system:**
  - **Draw Button = both players agree to end the game in a neutral way.**
  - **Applicable when:**
    - **Board is full**
    - **No legal moves left**
    - **Specific game-based logic (e.g., 40-move rule in Checkers)**

Checkers-Specific Logic

- **Jumping Logic:**

  - **Multiple jumps must be mandatory (official rules).**
  - **Supan and Natasha will implement jump-checking recursively.**
  - **Highlighting of valid moves and jump paths will be included.**

- **Draw Conditions in Checkers:**
  - **If 40 moves occur with no captures or pawn moves, offer draw.**

- - ○ **GUI should provide a "Request Draw" prompt at that point.**
    - ○ **Upon mutual agreement, declare game a draw (ELO-neutral).**
  - ● **Timer Discussion:**
    - ○ **Per-turn timer (e.g., 30 seconds) proposed**
    - ○ **Match timer (e.g., 10 mins total) also discussed, but no decision finalized.**

ELO / Ranked Game Insights

- ● **Forfeits = Loss of ELO.**
- ● **Draws = ELO-neutral, unless a significant ELO gap exists between players.**
- ● **Future improvement suggestion:**
  - ○ **Account for ELO delta when evaluating draws (e.g., low-ranked player drawing with top-ranked player may gain a few points).**

Clarified Terms & Concepts

Term	Clarification
Forfeit	Voluntary quit mid-game → counts as a loss (impacts ELO in Ranked).
Draw	Mutually agreed or auto-detected outcome → neutral result (no ELO loss).
Leave Game	Suggested to remove — replaced by "Draw"
Per-turn Timer	Timer for individual moves (e.g., 30s per move).
Match Timer	Timer for entire game (e.g., 10 mins max). **Game Logic to make that determination****
40-move Rule	Official Checkers rule — 40 moves without capture or pawn movement triggers draw.

Mandatory Jumps	If a jump is possible, it must be taken (rule will be enforced in Checkers logic).

Action Items

Item	Owner(s)	Deadline
Finalize base logic for Checkers & Connect 4	Game Logic Team	April 2
Continue implementing jump logic in Checkers	Natasha, Supan	In progress
GUI to implement a Request Draw functionality	GUI Team	To be scheduled
Game Logic to finalize Checkers Logic	Game Logic Team	TBD
GUI to remove Leave Game button	GUI Team	TBD
GUI to change Surrender to Forfeit	GUI Team	TBD
Game Logic to implement local/2 player mode	Game Logic Team	TBD

📅 Next Meeting

Tuesday @ 1:00 PM – Quick Scrum check-in