CS451 Group 8 Checkers Web Application

Version 1.0 Release Notes

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Table of Contents

1. Introduction

Purpose & Scope of Document

This document contains the release notes for the Checkers Web Application version 1.0, which is the first official release of the application. This document will outline the core features of the application that are provided in this release, some of the known issues present and the plans for improvements post release of version 1.0. Reading this document will give the reader an understanding of what this release of the application will allow them to do in the application, some of the issues that they may encounter when using it and what they may expect in the future from development work.

Product Summary

The Checkers Web Application is an application that provides users with the experience of playing the traditional checkers board game on their computer. As a web based application, the Checkers Web Application may be played on any modern browser and allows for players to play with each other via the internet. A checkers match may be played by two users who are matched together by the application. The Checkers Web application provides the users with a virtual representation of a checkers board and checkers pieces, which may be moved in the same ways as real checkers pieces are allowed to be moved. The application also acts as a referee, not allowing invalid moves to be made and determining when a user has won or lost the game.

2. Features in this Release

Custom Usernames

When entering the main page of the application, users are now prompted to enter a username by which they will be identified in the Checkers Web Application. This username will be displayed in various pages of the application and in checkers matches to identify whose turn it is and who is playing.

Match searching with Random Matchmaking

Users may now find other users to play matches with in the Checkers Web Application through a match search process. When clicking the “Enter Matchmaking Queue” in the match search screen, users are placed into a queue. The server then finds other users in this queue to match together and redirect to a checkers game session. This process is random, meaning users will not know who they will be matched against.

Dynamic User Interface for Checkers Board and Pieces

Checkers matches themselves can now be played with the new user interface representing the checkers game. This interface consists of a checkers board with checkers pieces. A user may drag and drop the checkers pieces to make moves on the board. This user interface also displays which users turn it is, provides popups for important match events and shows a turn counter for the number of turns elapsed. Additionally, king checkers pieces are identified with a crown and checkers pieces are differentiated by one player having red pieces and the other white pieces.

Move Validation

The Checkers Web Application now validates regular moves according to the rules of checkers. The application allows users to move regular checkers pieces 1 square up and 1 square to the left or right if the space is not occupied and is within board boundaries. King checkers pieces may move in a similar fashion, but are also allowed to be moved backwards.

Jump Validation

The Checkers Web Application now validates jump moves according to the rules of checkers. The application allows checkers pieces to jump over opponent pieces, provided the space being jumped to is not occupied and is within board boundaries. Additionally, if a jump is available to a player, the application forces the player to take that jump by not allowing other pieces to be moved.

Chain Jump Validation

The Checkers Web Application now allows for chained jumps to be made, meaning if a jump move lands a piece into a square where another jump is available, the user can and is forced to take the other jump as well. The application ensures that the user takes all jumps available before allowing their turn to complete.

Match State Management

The Checkers Web Application now keeps track of conditions that would lead to the victory or loss of a player. Such conditions include a user losing all their pieces (resulting in them losing), a user disconnecting (resulting in a victory for their opponent) and repeated board configurations. If the same moves are repeated too many times, the match will end in a draw. Additionally, if a user is put into a position by their opponent where they cannot move pieces, the application detects that they have lost the match.

Match State Notifications

The Checkers Web Application now notifies users in a checkers match on important information regarding the game. The application shows a popup explaining why a move has been deemed invalid, why a jump has been deemed invalid or if the user tries to move a piece when they have a jump available. Additionally, users are notified when their turn begins and whose turn it is currently. If a user tries to move a piece during an opponent's turn, they are also notified of this fact to minimize confusion of how the game is progressing. A user is also notified if their opponent leaves as this results in the premature termination of the match. Lastly, when a game is played to completion, users are notified who won and who lost before being redirected to the match search page.

Disconnect Handling

The Checkers Web Application now detects when a user has left the match by logging out or closing their browser window. When this occurs, the remaining player is notified of this fact, the fact that they have won and then redirected to the match search page so they may search for another match.

3. Known Issues with Release

There are currently no known issues or bugs with release v. 1.0 of the Checkers Web Application to the developers knowledge. It is likely there are bugs that have not been found yet, but will be found as the application v. 1.0 is used more.

4. What's Next?

Fixing Known Issues

The primary objective for the Checkers Web Application development team for the next release is to fix issues found in version 1.0 as user testing progresses.

Inactivity Timer

The Checkers Web Application development team wants to help prevent frustrating experiences with the game stemming from inactive users. If a user does not make a move for a certain period of time during their turn, the match should end in favor of that player's opponent.

Match Rooms

The Checkers Web Application development team wants to provide users with another way to find users to play matches with. One feature for doing so could be to add Match Rooms to the Match Search page. Users could search through a list of active rooms in the page, see the room name and the player in it already. They could then join the room and be redirected into a match.

Match Search Options

The Checkers Web Application development team wants to provide users with more control over the random matchmaking process. A feature that was discussed in the requirements but did not make it into the version 1.0 release was the ability to accept and decline matches when the server matched a user with another user. The user would be shown the username of the user they would be matched with and could choose to "Accept" or "Decline" the match with the user.

Adding More Match UI Elements

The Checkers Web Application development team wants to provide users with more information about the match state. A feature that was discussed in the requirements but did not make it into the version 1.0 release was checkers piece counters that keep track of the number of pieces on the board. These counters would show how many king and regular checkers pieces each user has on the board.

Match UI Customization

The Checkers Web Application development team wants to provide users with the ability to customize their checkers match UI. This could mean providing different colors for pieces, different board types and perhaps new types of backgrounds for the page.

Match Chat

The Checkers Web Application development team wants to provide users with the ability to chat with their opponent during a checkers match to enhance the checkers experience and make it more like playing the physical version of the game.