# COM S/SE 319 : Construction of User Interfaces
# Spring 2020
# Group No. 11: Final Release Report

**Project Title: Game Zone**

## 1. Successful Implemented Story Cards for Final Demo:

- Story Card 6:
  -Name of the Story : User will be able to start a game of checkers and play against another player or an AI
  -Assigned Team Member: Sean Griffen, Jamie Peterson
  -Tasks accomplished for this story card:
    i. Create Checkers POJO and corresponding database table
    ii. Create game board state
    iii. Create game ruleset methods
- Story Card 7:
  -Name of the Story : User will be able to start a game of chess and play against another player or an AI
  -Assigned Team Member: Sean Griffen, Jamie Peterson
  -Tasks accomplished for this story card:
    i. Create Chess POJO and corresponding database table
    ii. Create game board state
    iii. Create game ruleset methods
- Story Card 14:
  -Name of the Story : Users should be able to play chess without an opponent
  -Assigned Team Member: Sean Griffen
  -Tasks accomplished for this story card:
    i. Create chess HTML page
    ii. Implement chess movement
    iii. Implement chess kill condition check
    iv. Implement chess check system
    v. Make unit tests for chess
    vi. Make game accept backend connections
    vii. Add unit tests to CI pipeline
- Story Card 15:
  -Name of the Story : Users should be able to play chess without an opponent
  -Assigned Team Member: Sean Griffen
  -Tasks accomplished for this story card:

i. Make chess work with the backend connection
ii. Make sure website is sending all necessary data to server
iii. Handle collecting data for other player moves
iv. Debug multiplayer
v. Unit test multiplayer
vi. Plan out AI
vii. Implement AI
viii. Debug AI
ix. Unit test AI

- Story Card 18:
  -Name of the Story : Users should be able to play chess without an opponent
  -Assigned Team Member: Rob Barton, Kira Pierce
  -Tasks accomplished for this story card:
    i. Connect GUI testing to git yml
    ii. Implement pipeline
    iii. Make sure tests work

## 2. Design Documentation (UML Diagram for Story Cards of Final Release Only):

- **Use-case Diagram of implemented Story Cards:**

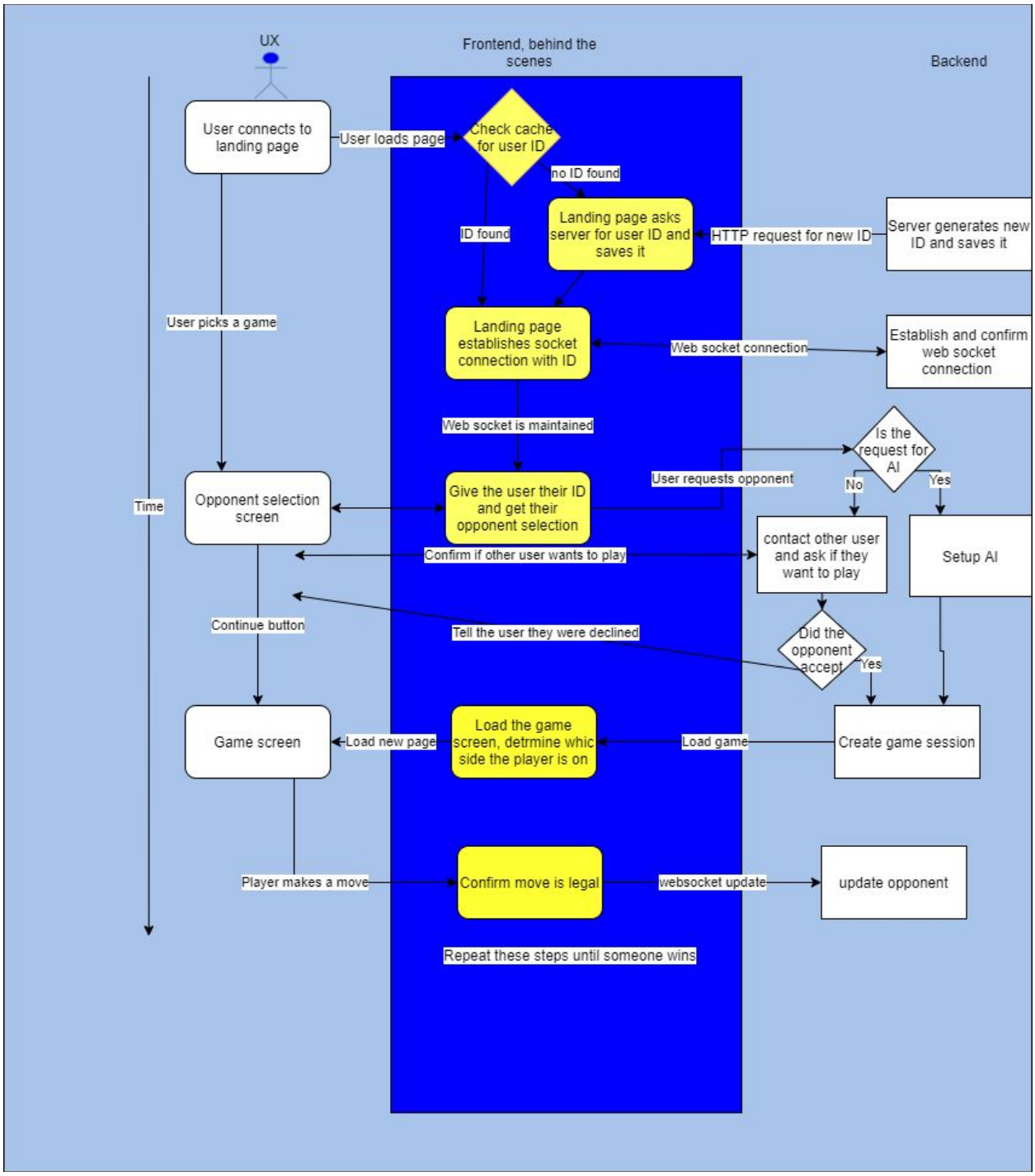


Figure 1: *Activity Diagram for Game Zone*

## 3. Implementation Outline:

The Overall Implementation Outline of our project which includes:

- Platform (Android/iOS/Web/Desktop):
  Web
- Front-end Language/Technologies/Framework used:
  JavaScript
  HTML
  CSS
- Back-end Language/Technologies/Framework used:
  Java
  Springboot framework
- Database, Server, IDE and any design/UML tools:
  MySQL

**4. <u>UI description with Screenshots:</u>**

These are all Screenshots for successfully implemented story cards for **Final Release**:

**Story Card: Create Landing Page**

*Home page of our website*

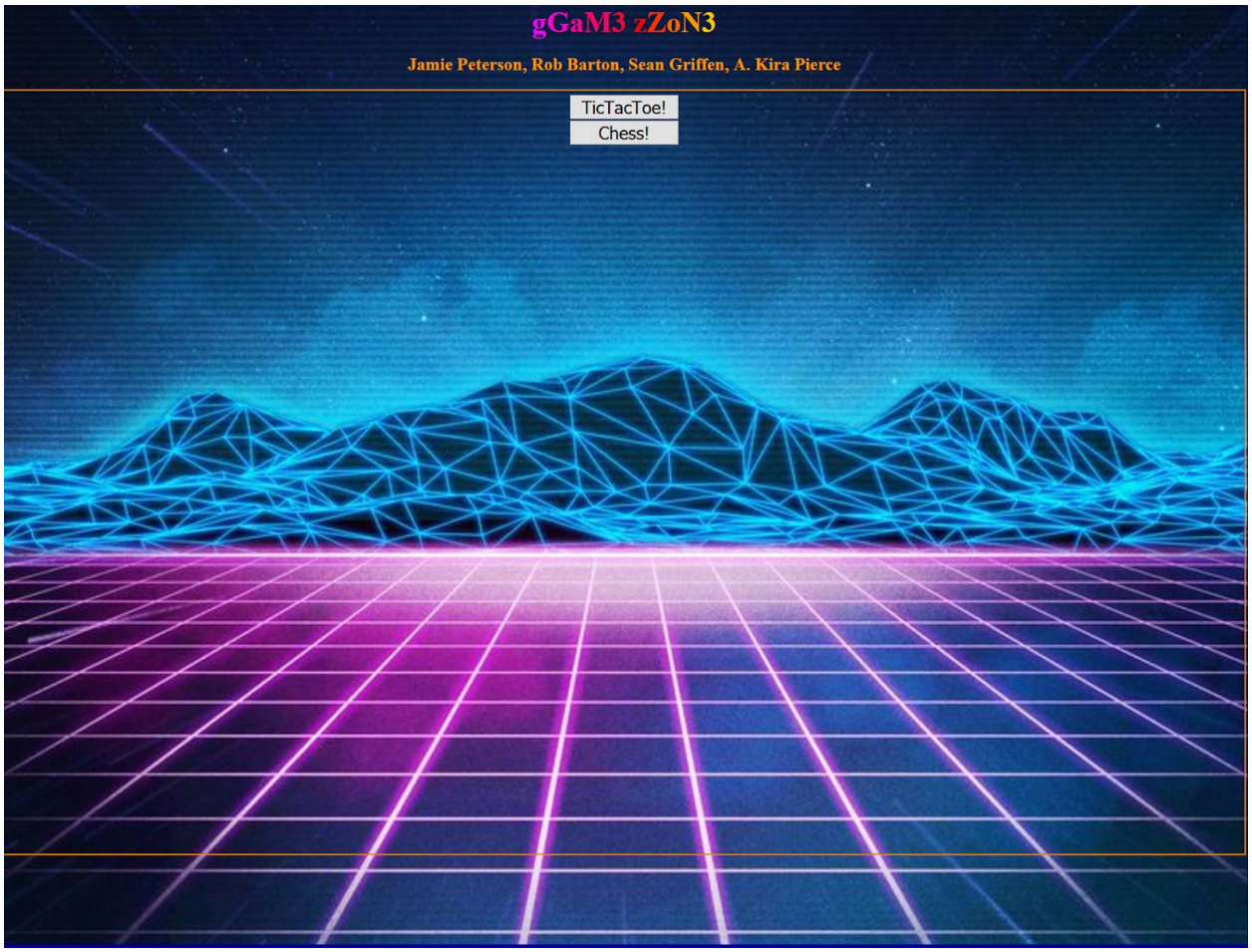


*Figure 1: As a user, I want to view a Home Screen*

**Story Card 17: Users should get a menu upon game selection for opponent selection**

*Select the online player or AI to play tic-tac-toe or chess against*

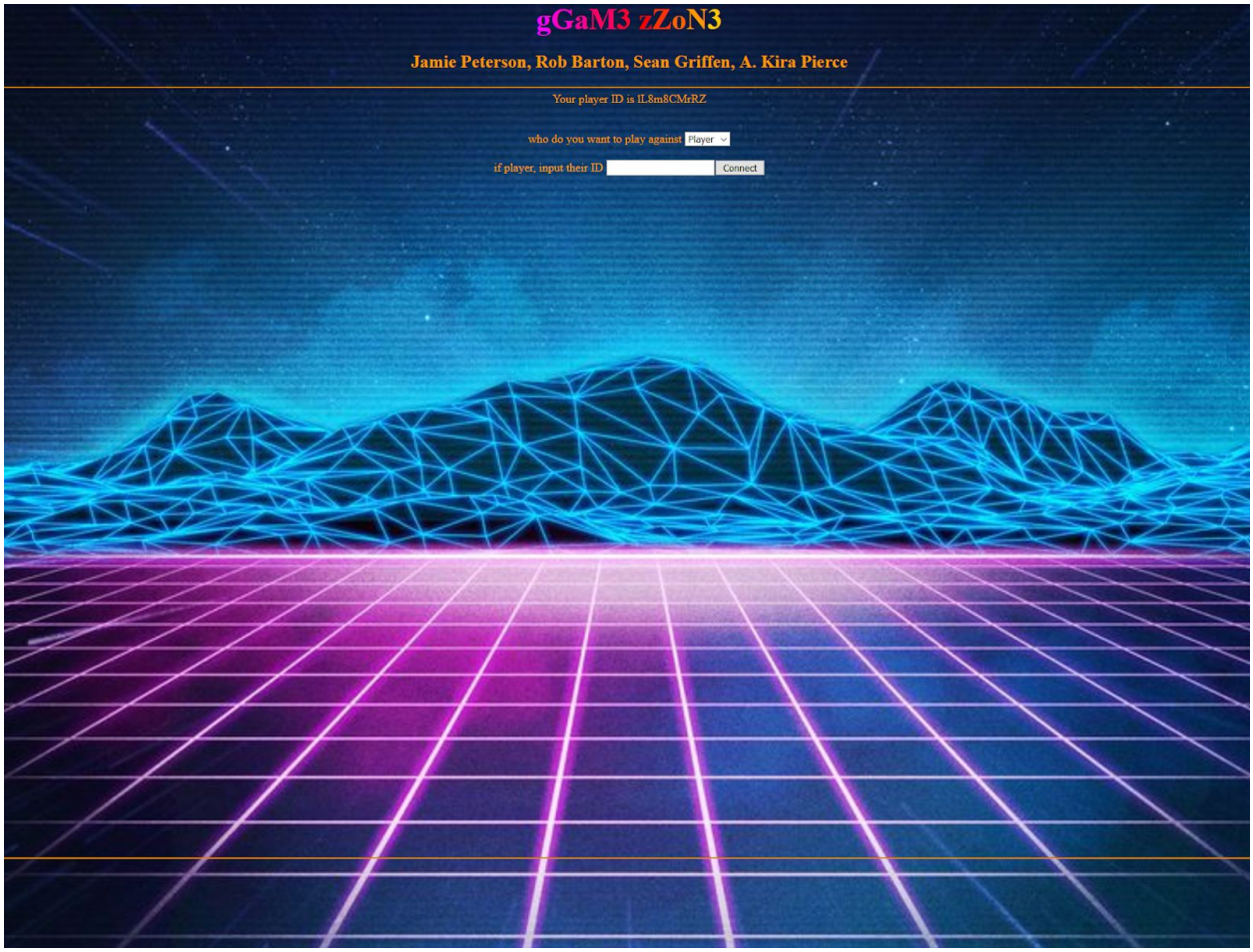


*Figure 2: As a user, I want to select who I play the desired game against*

**Story Card 17: Users should get a menu upon game selection for opponent selection**

*When challenged to a game by another player, you receive a prompt to either accept and play, or decline.*

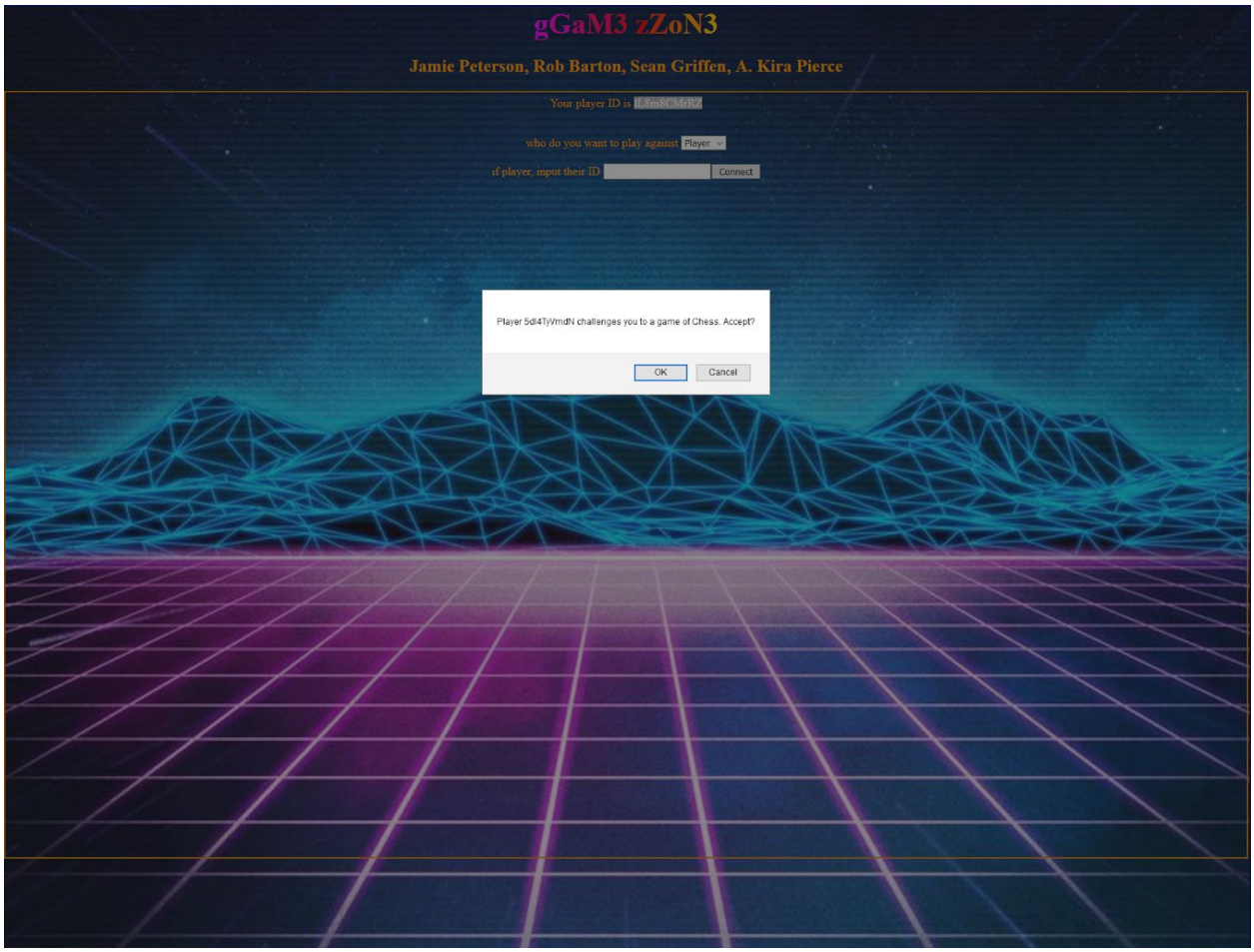


*Figure 3: As a user, I want to receive challenges*

**Story Card 11, 16: User will be able to start a game session of Tic Tac Toe and play against another player or an AI, Users should be able to play tic tac toe against AI**

*The player can play a game of tic tac toe*

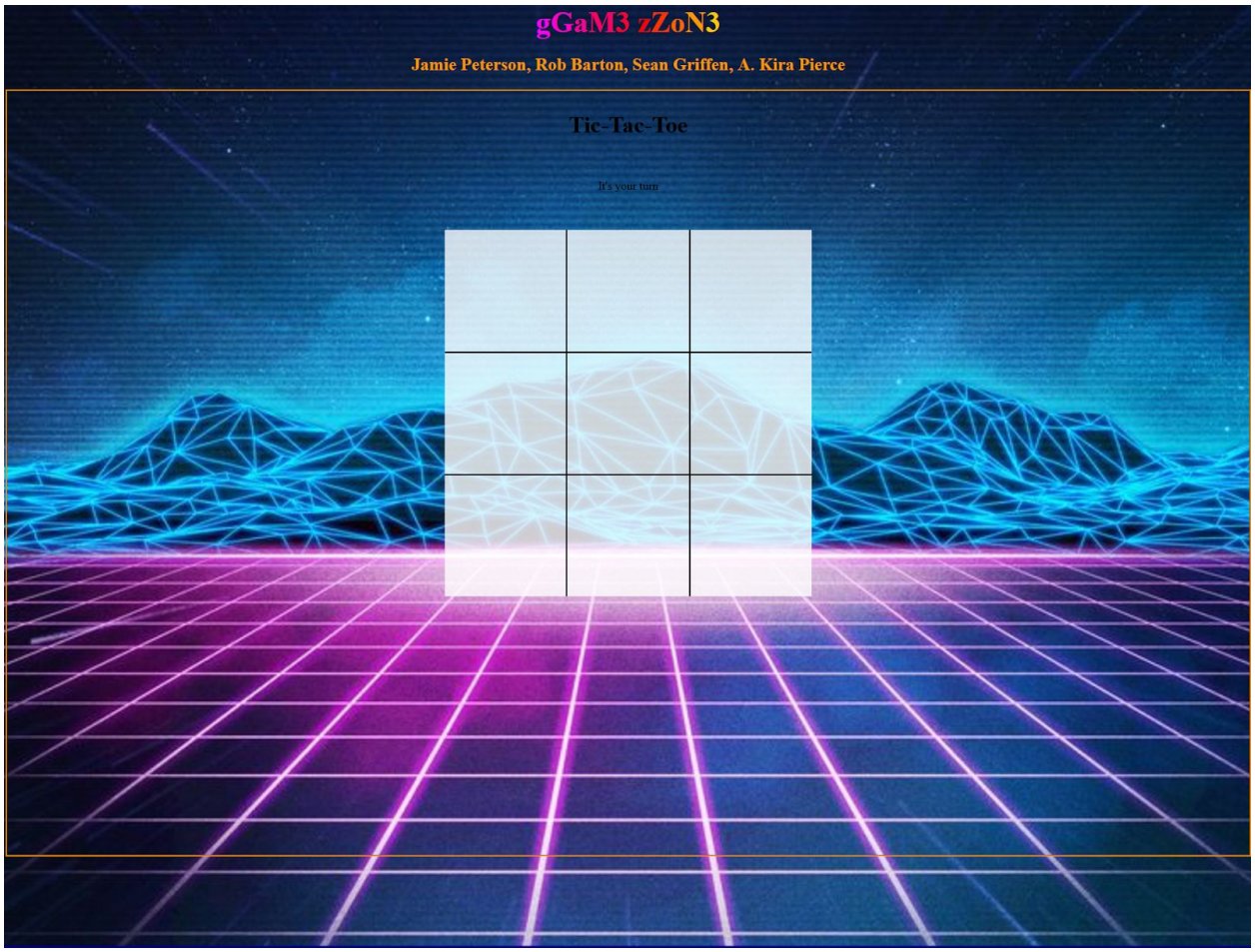


*Figure 4: As a user, I want to play a game of tic tac toe*

**Story Card 14, 15: Users should be able to play chess without an opponent, Users should be able to play chess against AI and player**

*The player can play a game of chess*

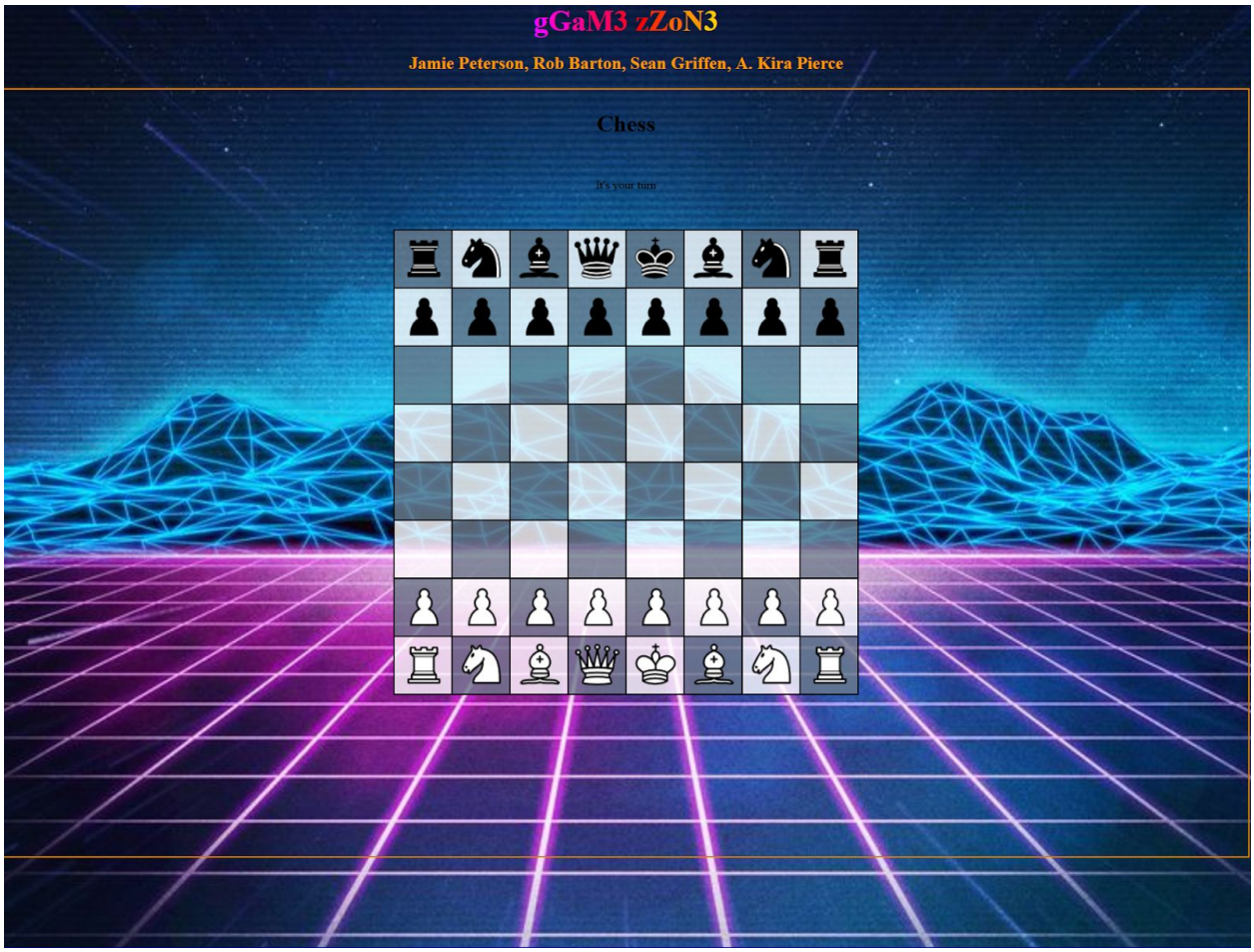


*Figure 5: As a user, I want to play a game of chess*

**Story Card 5: Name**

*The player can win a challenge*

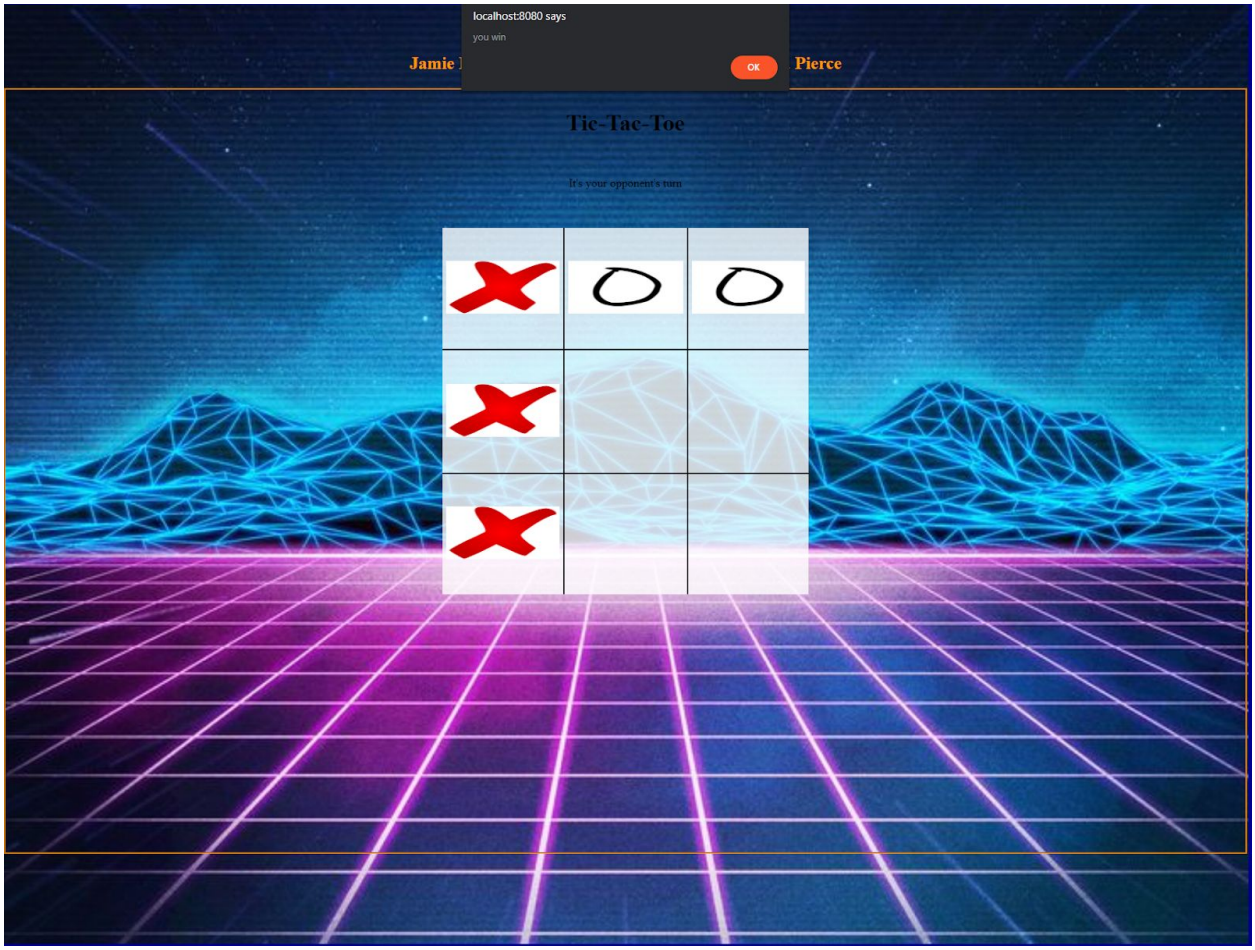


*Figure 5: As a user, I want to win a game challenge*

**Story Card 5: Name**

*The player can win a challenge*

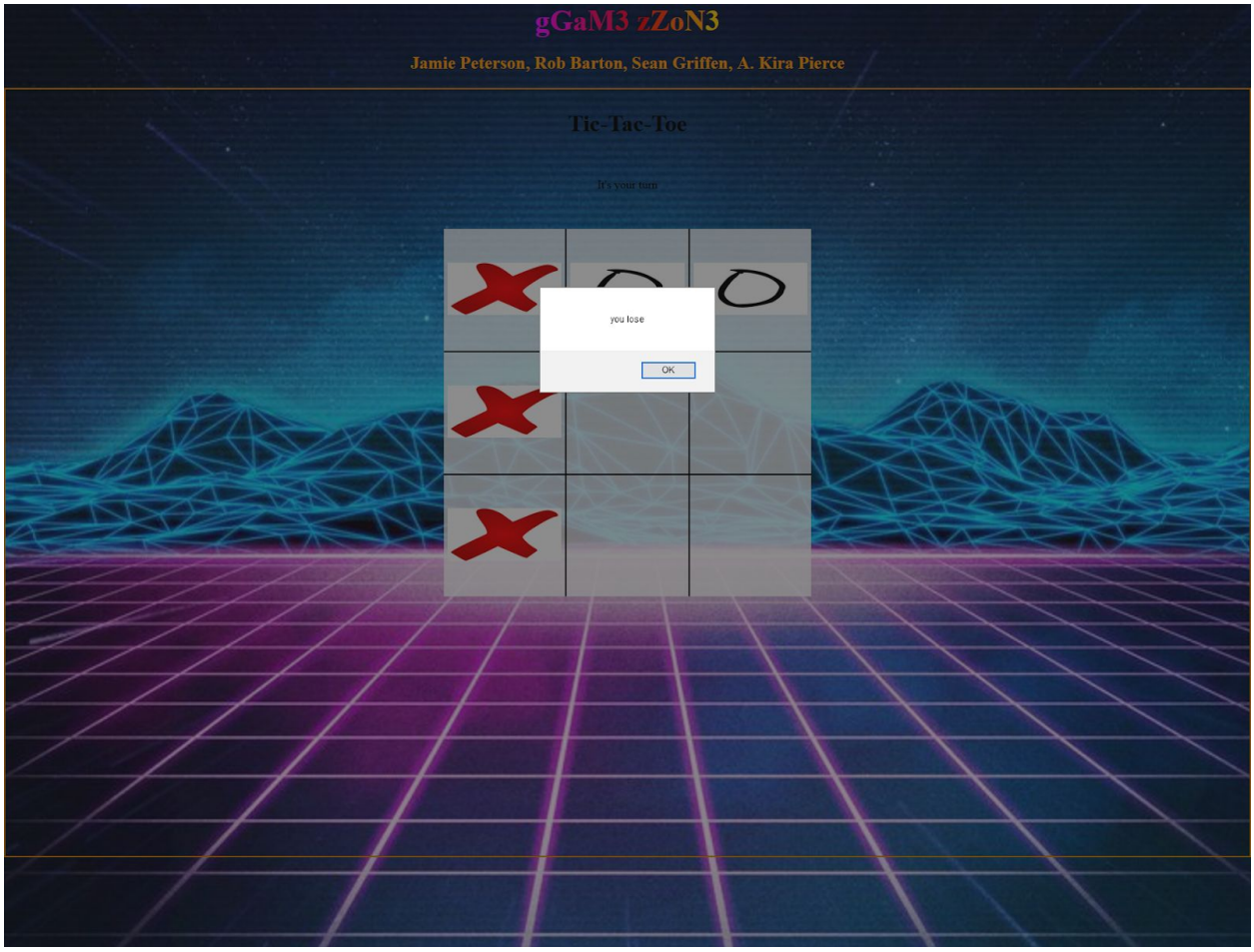


*Figure 5: As a user, I want to lose a game challenge*

## 5. Testing:

Frontend testing proved very difficult to implement, running into several issues. First, we had to restart the runners because they were unable to connect to git. Then we had to ditch docker because it was unable to connect to git. Then we had to try several different methods of connecting our jest code to our js code. Once all of that was working we wrote the tests that broke over and over again requiring constant rewrites. In the end we did get it to a point of testing working on the branch before_master. Merging into master messed up the testing but that happened to a few things.

Backend testing was something we didn't consider for a majority of the project, but ultimately implemented. We didn't run into nearly as many issues as we did with front end as it was simple JUnit testing. It did help catch a few bugs after being written so it was ultimately worth it.

## 6. Summary:

Overall, we didn't get everything we wanted to get done, but what we have is robust and we are happy with the frameworks, interfaces, and overall structure of our project. Towards the end, we realized a lot of the mistakes we made early on and spent a lot of time fixing those, so we ended with a not-as-complete project, but with one satisfactory of our expectations.

For future development, we plan on implementing checkers, and making the connections and game logic more robust on the frontend. Right now, there are a few gameplay bugs relating to turns and valid moves, but they would be pretty straight-forward to fix.