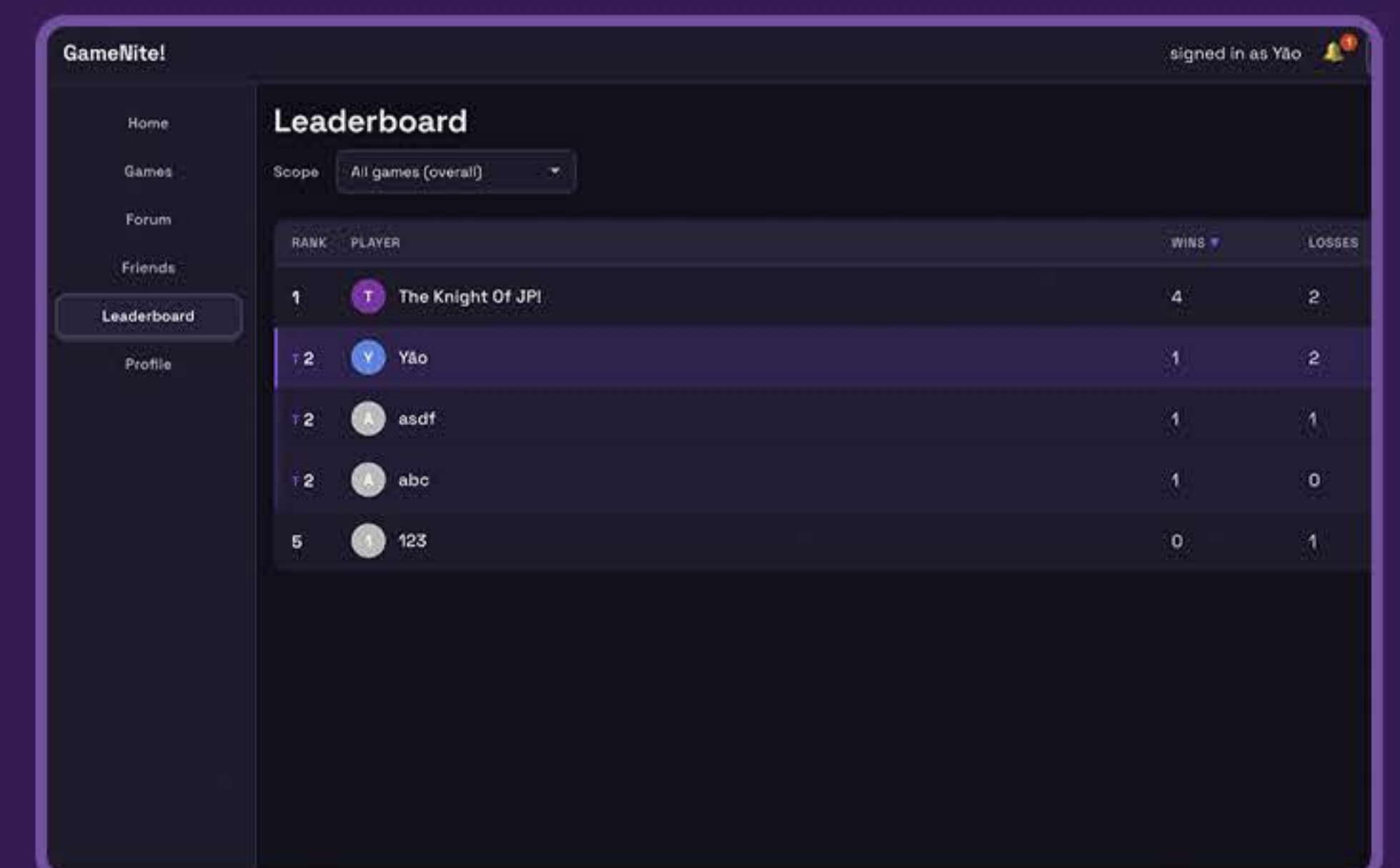
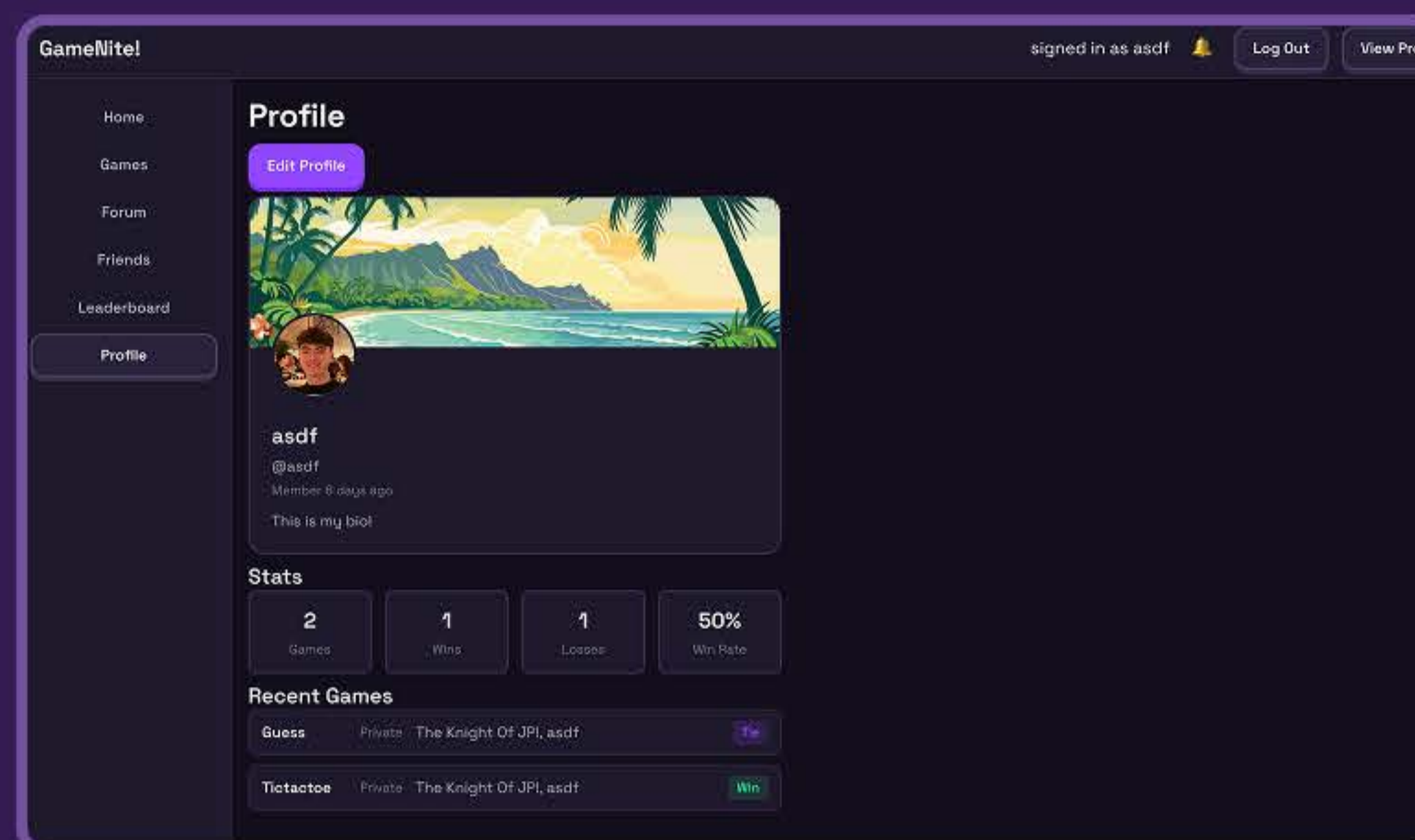
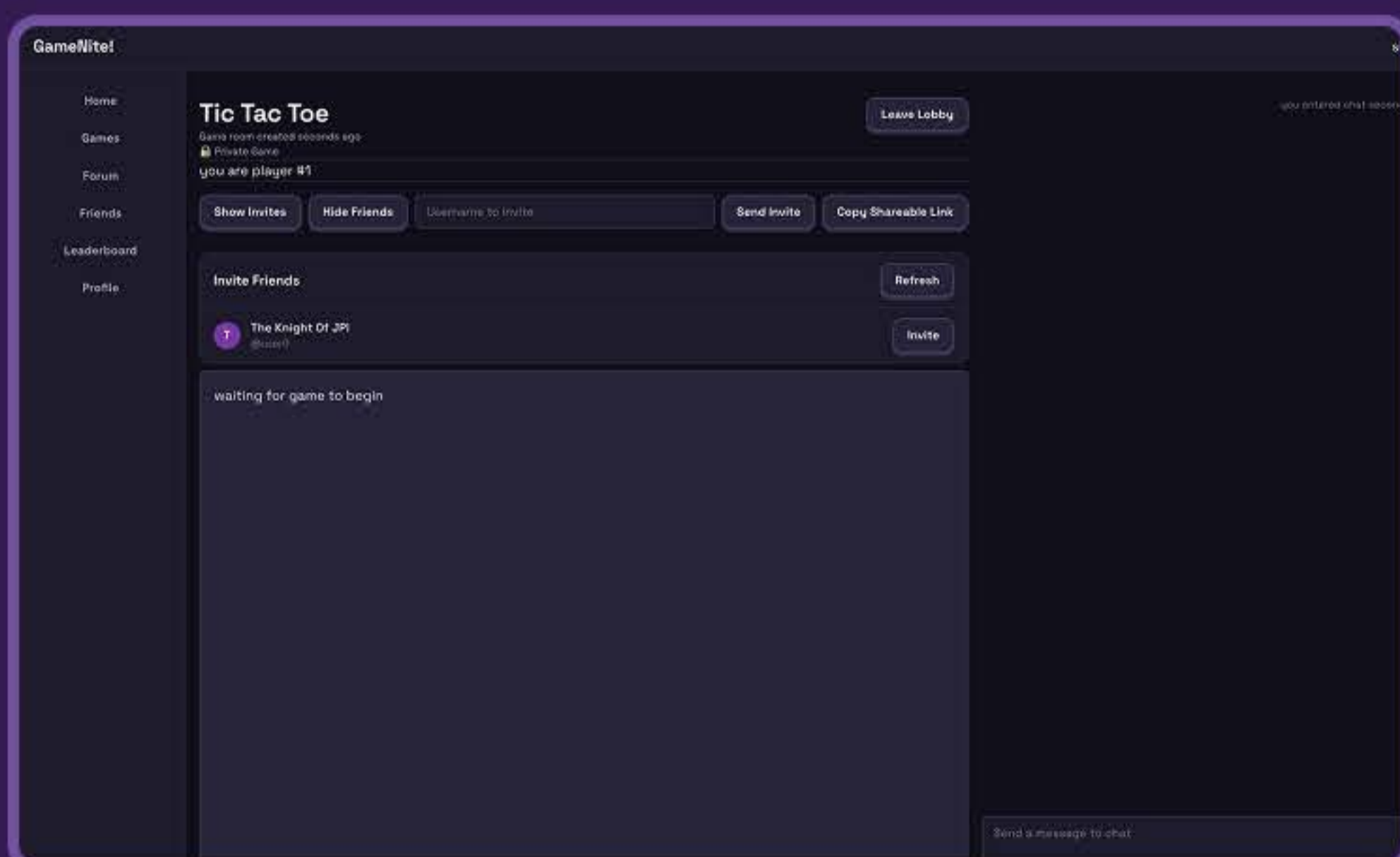


CS4530 Final Project: GameNite

Group 407: JP Norton, Jack Oehling, Garrick Cheng, Liam Carvajal

Features & Description

GameNite is a multiplayer web app that combines social features with gameplay. Users can customize profiles with avatars, banners, bios, and privacy settings, build friendships through friend requests and live online presence, create invite only private game lobbies with shareable join links and real time notifications, and compete on persistent leaderboards based on valid completed matches. We also added Tic-Tac-Toe and MineFinder to expand the game library.



Tech Stack

Built with React and TypeScript on the frontend and Express plus Socket.io on the backend. Data is persisted with MongoDB and Keyv, client and server stay aligned through shared TypeScript types, GitHub Actions handles CI, Playwright covers end to end testing, and the deployed site is hosted on Render.

Design Decisions

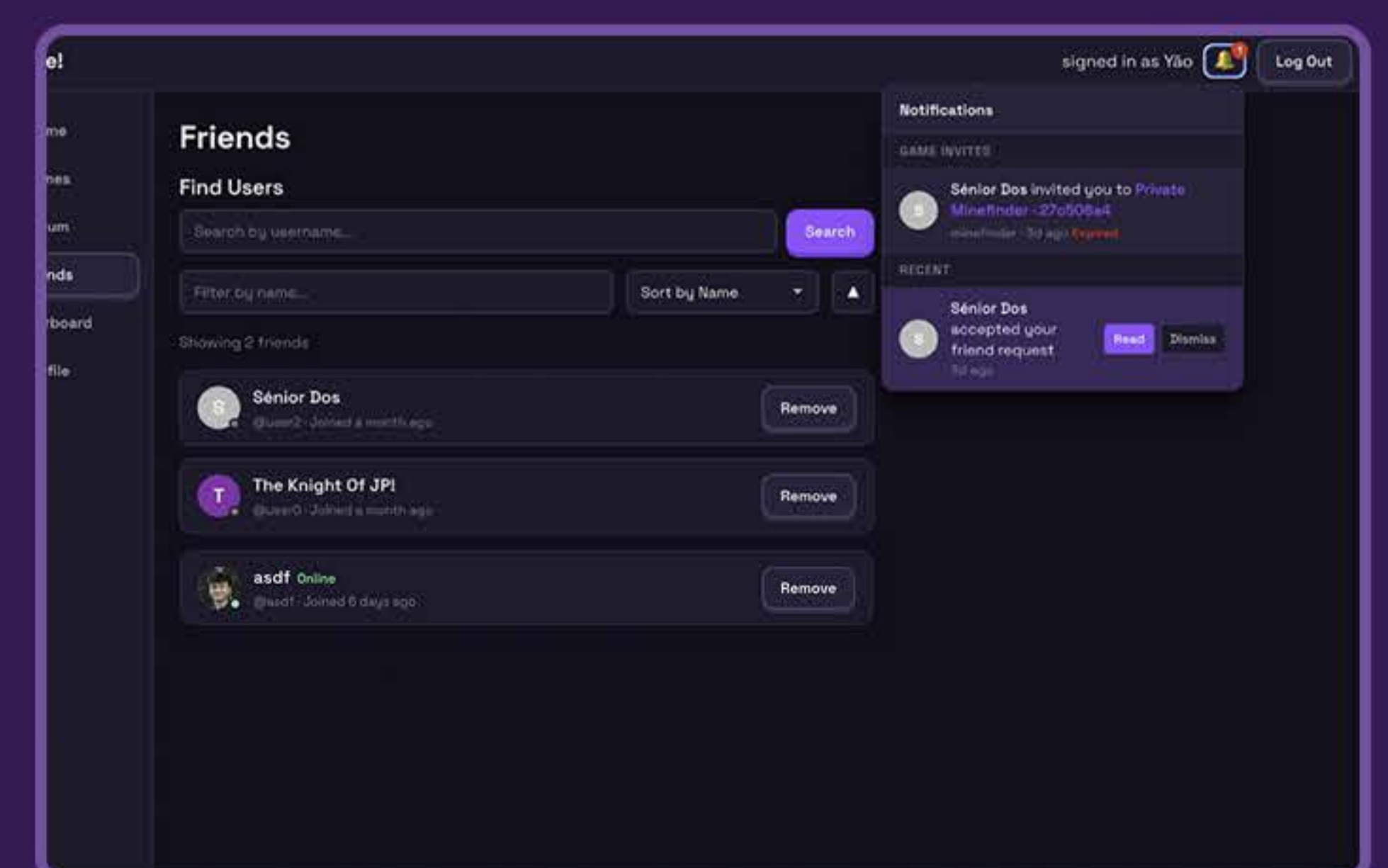
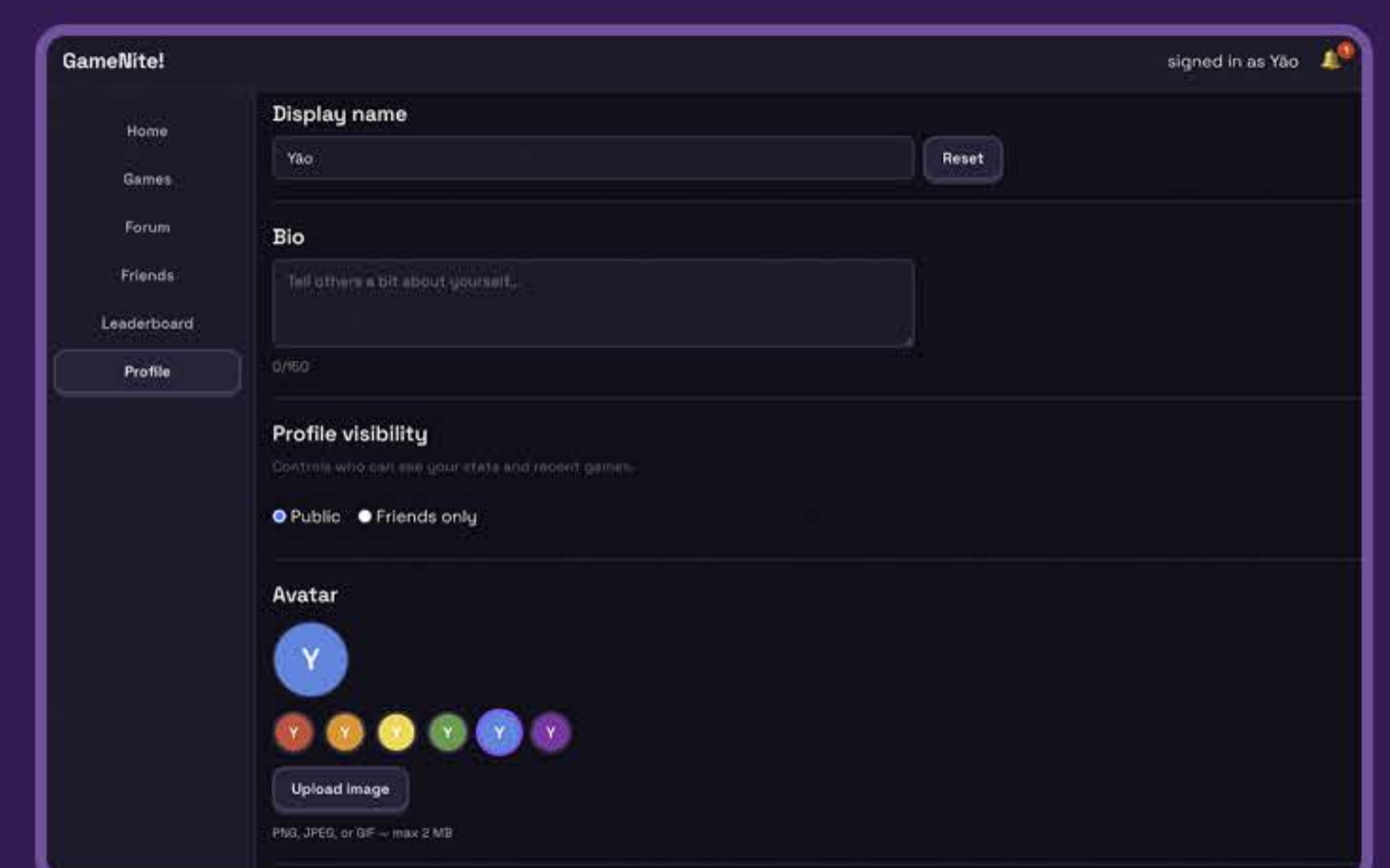
We separated backend logic into repository, service, and controller layers to make the system easier to test and maintain. On the client, we used a hooks plus services pattern to keep components cleaner and reduce clutter from state and API logic. We also used a single shared socket connection for real time presence, invite updates, and notifications, and enforced private game access on the server for stronger security.

Repo

<https://github.com/neu-cs4530/spring26-project-team-407>

View Project Demo Site

<https://spring26-project-team-407.onrender.com>



Future Work

- direct messaging between friends
- suggested friends based on mutual connections
- password protected private games
- more games to play
- continued UI and performance improvements