

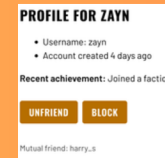
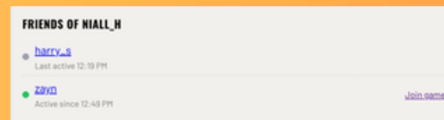


Faction Fight

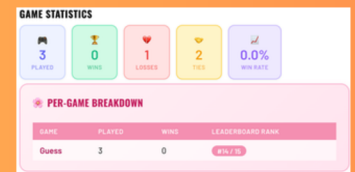
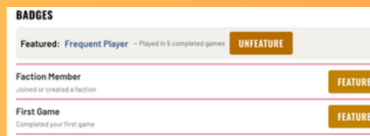


A MULTIPLAYER WEB-BASED GAMING PLATFORM EXTENDED WITH SOCIAL AND COMPETITIVE FEATURES: A FRIENDS SYSTEM, PROFILE PERSONALIZATION WITH GAME STATISTICS AND EARNED BADGES, GOOGLE SSO LOGIN, LEADERBOARDS, AND FACTIONS (USER-CREATED TEAMS THAT CAN COMPETE AGAINST EACH OTHER). THE GOAL IS TO TURN A BASIC GAMING SITE INTO A SOCIALLY-DRIVEN PLATFORM THAT REWARDS ENGAGEMENT AND FOSTERS COMPETITION.

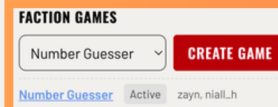
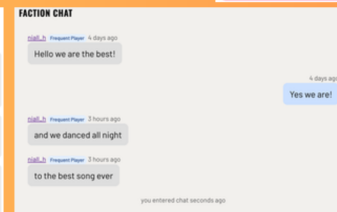
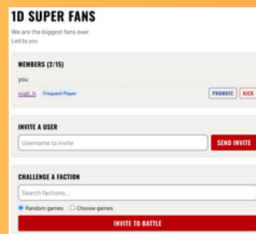
1. **Friends System** – send, accept, and reject friend requests. See what games your friends are playing. Block or unfriend users.



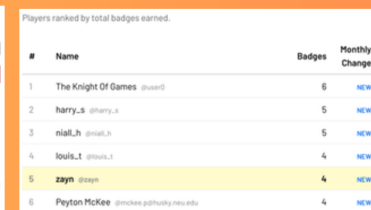
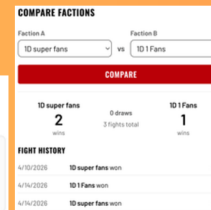
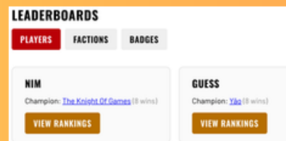
2. **Profile Stats & Badges** – view your win rates, game history, and streaks. Earn badges for individual and faction achievements. Pick a featured badge to show off.



3. **Factions** – create or join teams of up to 15 players. Invite members, chat privately, and challenge rival factions to game competitions.



4. **Leaderboards** – see top players per game, by badges, and by faction. Track your rank and how it changes month to month.



GITHUB: [HTTPS://GITHUB.COM/NEU-CS4530/SPRING26-PROJECT-GROUP-314](https://github.com/NEU-CS4530/SPRING26-PROJECT-GROUP-314)

SITE: [SPRING26-PROJECT-GROUP-314.ONRENDER.COM](https://spring26-project-group-314.onrender.com)

TECH STACK & DESIGN DECISIONS

FACTION FIGHT CONTINUED THE TYPESCRIPT MONOREPO, WHICH LETS US SHARE TYPES AND VALIDATION LOGIC WITHOUT DUPLICATING SCHEMAS. THE FRONTEND IS A REACT APP BUNDLED WITH VITE AND STYLED WITH TAILWIND CSS. THE BACKEND RUNS ON EXPRESS WITH SOCKET.IO LAYERED ON TOP TO POWER THE REAL TIME FEATURES. THE SHARED WORKSPACE CENTRALIZES ZOD SCHEMAS, GIVING US ONE SOURCE OF TRUTH FOR REQUEST VALIDATION ON THE SERVER AND TYPE-SAFE PARSING ON THE CLIENT. SERVER-SIDE PERSISTENCE GOES THROUGH A GENERIC REPO<T> ABSTRACTION BACKED BY KEYV, WHICH LETS US SWAP IN-MEMORY STORAGE FOR TESTS AND MONGODB FOR PRODUCTION WITHOUT CHANGING CALL SITES. WE CONSOLIDATE ALL REAL-TIME TRAFFIC ONTO A SINGLE USER-NOTIFICATION SOCKET.IO ROOM PER USER RATHER THAN ADDING A SEPARATE NOTIFICATION SERVICE. CONTROLLERS FOR FRIEND REQUESTS, FACTIONS, AND GAMES EMIT INTO THIS ROOM, AND A USENOTIFICATIONS HOOK SUBSCRIBES ONCE AND FANS EVENTS OUT TO COMPONENTS LIKE NOTIFICATIONTOAST AND THE PERSISTENT INVITE BANNER. WE CHOSE THIS BECAUSE SOCKET.IO WAS ALREADY PRESENT IN THE STARTER CODE, AND EXTENDING EXISTING INFRASTRUCTURE WAS SIMPLER THAN INTRODUCING A SECOND TRANSPORT. A BADGE SYSTEM AUTOMATICALLY EVALUATES INDIVIDUAL AND FACTION ACHIEVEMENTS WHENEVER A GAME COMPLETES. THE FEATURES ARE ORGANIZED INTO THEIR OWN CONTROLLER/SERVICE LAYERS AND REGISTERED AS EXPRESS ROUTES IN APP.TS. OUR VITEST + SUPertest SUITE TARGETS 90%+ BRANCH COVERAGE ON NEW CONTROLLERS AND SERVICES, PLAYWRIGHT COVERS THE HIGHEST-RISK END-TO-END FLOWS, AND CI RUNS LINTING, PRETTIER, AND THE FULL TEST SUITE ON EVERY PUSH.

WHAT'S NEXT:

WE AIM TO LET USERS STAR THEIR FAVORITE FRIENDS SO THEY ALWAYS APPEAR AT THE TOP OF THEIR FRIEND LIST, AND ALLOW FACTION LEADERS TO HAND-PICK WHICH MEMBERS COMPETE IN EACH CHALLENGE GAME. WE ALSO PLAN TO ADD LEADERBOARD PINNING, WHERE USERS CAN FOLLOW SPECIFIC PLAYERS AND GET NOTIFIED WHENEVER THEY WIN OR LOSE. ON THE PERSONALIZATION SIDE, WE WANT TO INTRODUCE CUSTOMIZABLE COLOR THEMES FOR PROFILE STAT DISPLAYS. LONGER TERM, WE SEE POTENTIAL FOR ADDING NEW GAME TYPES TO THE PLATFORM, EXPANDING BADGE CRITERIA TO REWARD SOCIAL ENGAGEMENT LIKE FACTION PARTICIPATION AND FRIEND ACTIVITY.