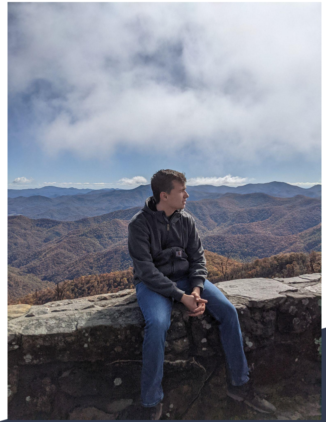
Online Chess Engine Comparator

Orion Gregory



Sebastian Shirk

Tejas Bhadoria

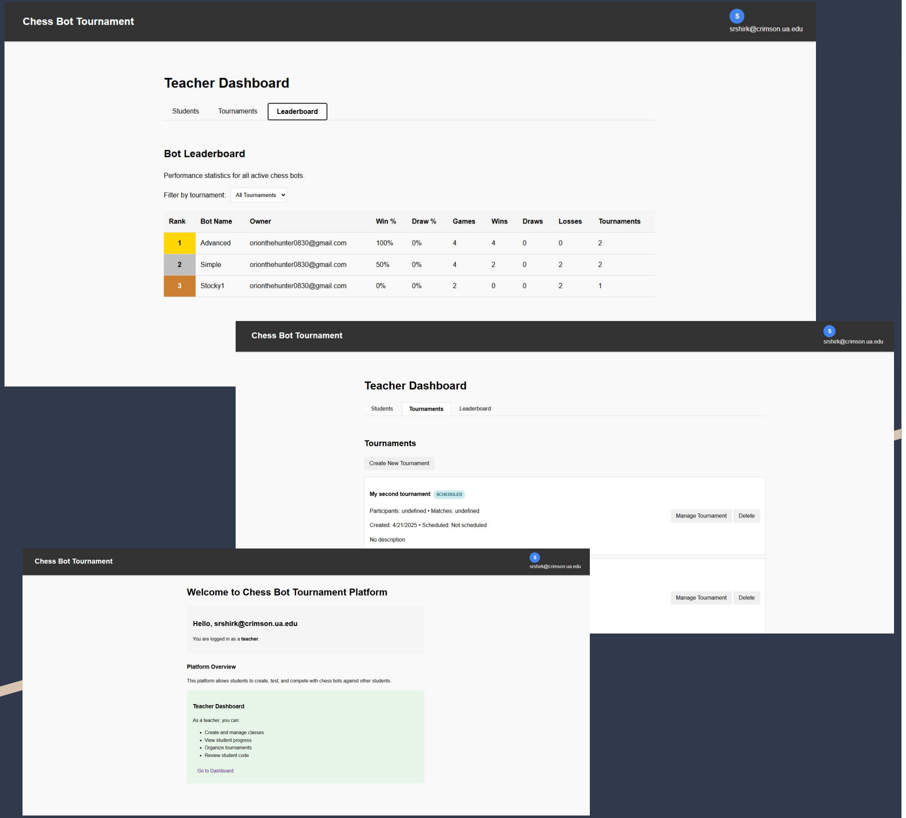
Sprint 3

GitHub: https://github.com/OrionGregory/ChessEngineComparator

Github Pages: https://oriongregory.github.io/ChessEngineComparator/

Website: https://chessenginecomparator-894499320278.us-central1.run.app

Project Overview



Chess Bot Tournament

S srshirk@crimson.ua.edu

Teacher Dashboard

Students | Tournaments | Leaderboard

Bot Leaderboard

Performance statistics for all active chess bots.

Filter by tournament: All Tournaments

Rank	Bot Name	Owner	Win %	Draw %	Games	Wins	Draws	Losses	Tournaments
1	Advanced	orionthehunter0830@gmail.com	100%	0%	4	4	0	0	2
2	Simple	orionthehunter0830@gmail.com	50%	0%	4	2	0	2	2
3	Stocky1	orionthehunter0830@gmail.com	0%	0%	2	0	0	2	1

Chess Bot Tournament

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Teacher Dashboard

Students | Tournaments | Leaderboard

Tournaments

Create New Tournament

My second tournament SCHEDULED

Participants: undefined • Matches: undefined

Created: 4/21/2025 • Scheduled: Not scheduled

No description

Manage Tournament | Delete

Manage Tournament | Delete

Chess Bot Tournament

S srshirk@crimson.ua.edu

Welcome to Chess Bot Tournament Platform

Hello, srshirk@crimson.ua.edu

You are logged in as a **teacher**.

Platform Overview

This platform allows students to create, test, and compete with chess bots against other students.

Teacher Dashboard

As a teacher, you can:

- Create and manage classes
- View student progress
- Organize tournaments
- Review student code

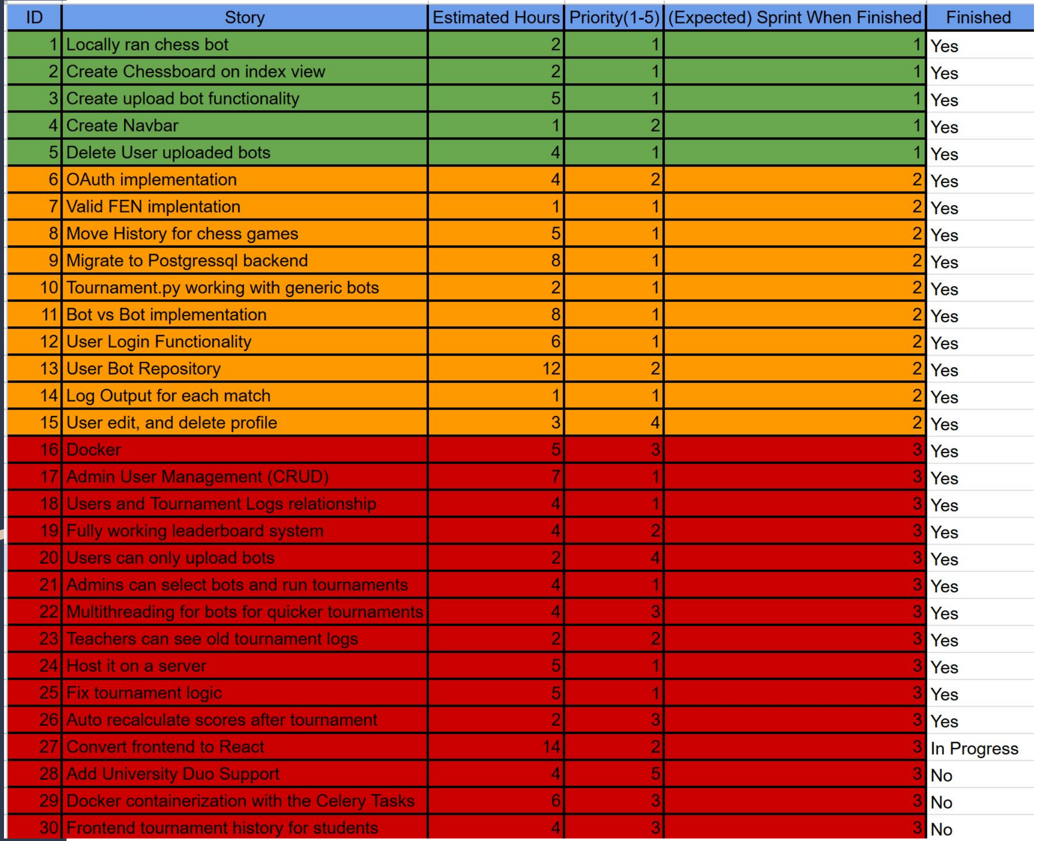
Go to Dashboard

- Create a web app where students can upload chess bots and view leaderboards to see their bots performances.

- Teachers can manage students and uploaded bots. Teachers can create round robin tournaments to play bots against each other.

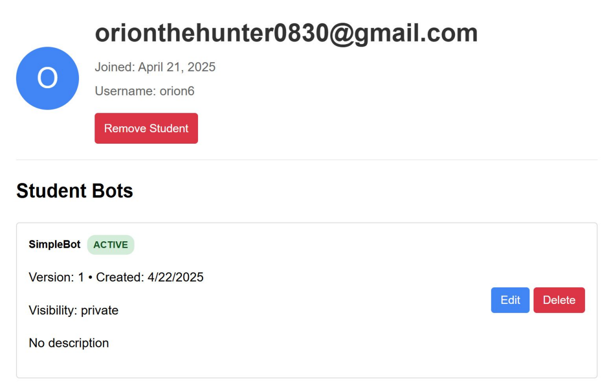
- Provide log outputs of each tournament and general statistics/leaderboard.

Sprint Backlog



ID	Story	Estimated Hours	Priority(1-5)	(Expected) Sprint When Finished	Finished
1	Locally ran chess bot	2	1	1	Yes
2	Create Chessboard on index view	2	1	1	Yes
3	Create upload bot functionality	5	1	1	Yes
4	Create Navbar	1	2	1	Yes
5	Delete User uploaded bots	4	1	1	Yes
6	OAuth implementation	4	2	2	Yes
7	Valid FEN implentation	1	1	2	Yes
8	Move History for chess games	5	1	2	Yes
9	Migrate to Postgressql backend	8	1	2	Yes
10	Tournament.py working with generic bots	2	1	2	Yes
11	Bot vs Bot implementation	8	1	2	Yes
12	User Login Functionality	6	1	2	Yes
13	User Bot Repository	12	2	2	Yes
14	Log Output for each match	1	1	2	Yes
15	User edit, and delete profile	3	4	2	Yes
16	Docker	5	3	3	Yes
17	Admin User Management (CRUD)	7	1	3	Yes
18	Users and Tournament Logs relationship	4	1	3	Yes
19	Fully working leaderboard system	4	2	3	Yes
20	Users can only upload bots	2	4	3	Yes
21	Admins can select bots and run tournaments	4	1	3	Yes
22	Multithreading for bots for quicker tournaments	4	3	3	Yes
23	Teachers can see old tournament logs	2	2	3	Yes
24	Host it on a server	5	1	3	Yes
25	Fix tournament logic	5	1	3	Yes
26	Auto recalculate scores after tournament	2	3	3	Yes
27	Convert frontend to React	14	2	3	In Progress
28	Add University Duo Support	4	5	3	No
29	Docker containerization with the Celery Tasks	6	3	3	No
30	Frontend tournament history for students	4	3	3	No

High Level Functionality


orionthehunter0830@gmail.com

Joined: April 21, 2025

Username: orion6

Student Bots

SimpleBot ACTIVE

Version: 1 • Created: 4/22/2025

Visibility: private

No description

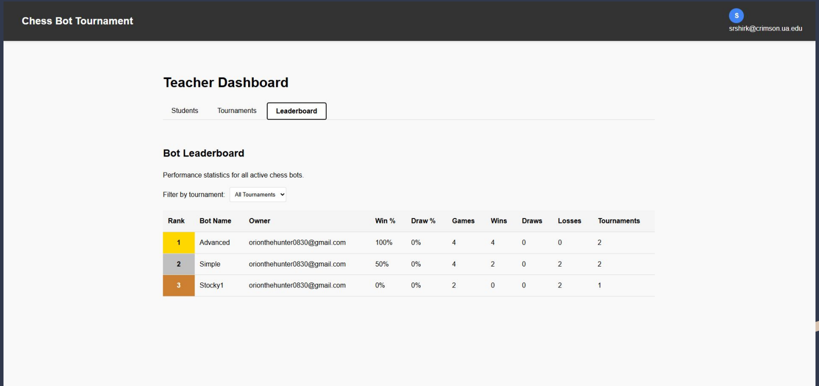
- User Management: Handles user authentication, roles (teacher, student), and profile management.

- Chess Bot Management: Allows users to upload, activate, archive, and manage chess bots.

- Tournament Management: Enables teachers to create, start, and delete chess tournaments, including adding/removing bots.

- Match Management: Provides functionality to run matches, download match PGN files, see match logs, and manage match states.

High Level Functionality Cont.



Teacher Dashboard

Bot Leaderboard

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- Leaderboard: Calculates and displays statistics for active chess bots, including win rates and tournament participation.

- Tournament Functionality: Uses Celery to run chess matches asynchronously.

Items on Backlog

- Duo Support
    - Duo support was a stretch goal that we were not able to implement by the end of Sprint 3.
- Downloading Public Bots
    - Bots can be set as public, and can be seen by all students, however currently, public bots cannot be downloaded.
        - This would be good functionality for teachers to upload bot templates.
- Using Docker with Celery
    - **The application** is containerized within docker
        - *Bots* are not
    - Using Docker with Celery ensures each bot is executed in its own container.
        - Better Fault Tolerance
        - Better security

Lessons Learned

- Be Flexible
  - When changes need to happen to the code base, embrace it.
- Not keeping progress local
  - If it is stable, then commit and push.
- Using different branches to make continuous progress
  - Using branches can allow for experimentation without fear of breaking the codebase.
- Keep it simple
  - If tools exist that add functionality, use them.

Demo Time