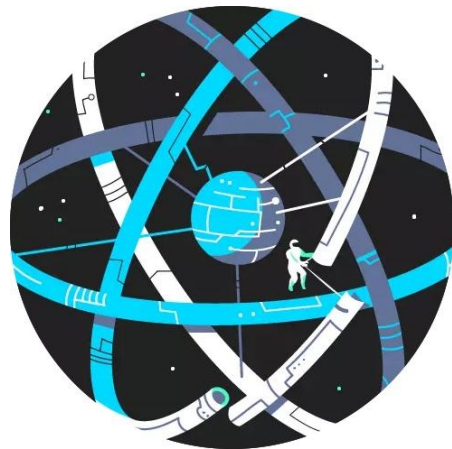# xGame P3

Team ReaKt (t02)

Kassidy Barram   Matt Young   Darin Harter   Lani Brooks   April Kelly   Aaron Lawrence

xGame: Extinction Chess

- Win Condition: All pieces of a given type must be eliminated.
- Pawns must promote, can promote into king.
- It is legal to castle when in check, or to castle through check.
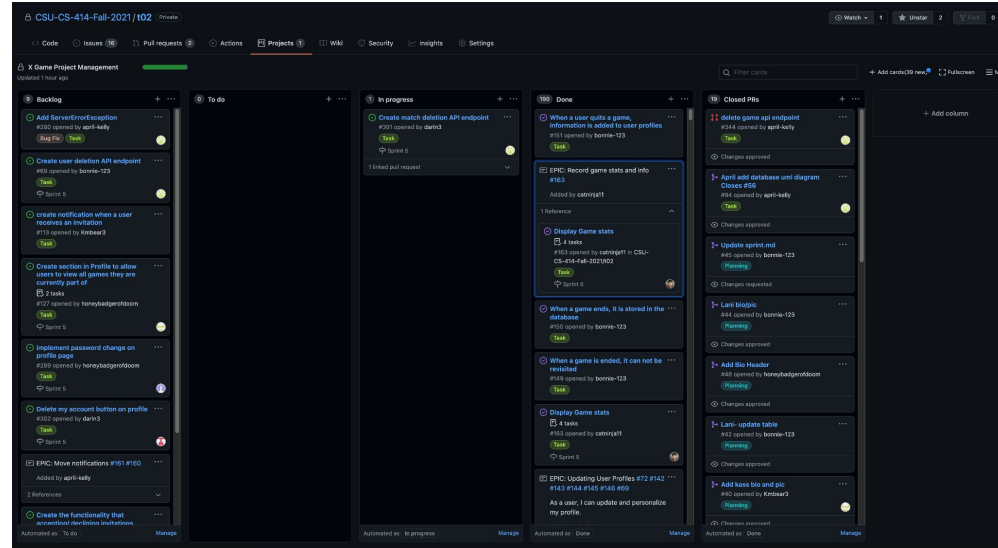- All other chess rules are the same.

Process & Tools

Process
- We used an Agile software development process.
  - We held scrum 3 times per week
  - Employed 2-4 week sprints
  - Rotating Scrum Master

Tools
- Spark server
- SQL database
- React
- Material-UI

Design Decisions

API

- Created an API that manages all the app information on the server
  - Accessed on the client for responsive updates.

Database

- How we kept track of everything that involved invitations, users, and the actual matches.

UI

- Designed client side to be user friendly and easy to view.

Traceability Matrix

- Client specifications and rules implemented on both the server and client.

Design Patterns and OO Principles

We didn't have enough time to implement specific design patterns or use OO principles in our design, as we spent our time completing the client's requirements. That said, we could have:

- Created a factory for the chess pieces
  - Delegate creation of different pieces to helper class

- Refactored code to have low coupling and high cohesion

- Focused on creating methods and objects that use the single responsibility principle

Features Completed

- Playing the Game
- Multiple Games at Once
- Register Account
- DeRegister Account
- Match Invitations
- Viewing User Profiles
- Quit the Game

- Return to Game after Log Out
- Update User Profile
- Notification of Opponent's Move
- Navigating the Application
- Recording Game Stats
- View Rules
- Search for Users

Lessons Learned

- Use test driven development
  - Insufficient test coverage slowed down development at times
  - Made debugging more difficult.

- Tasks can take longer than expected.
  - Helped to break tasks into smaller pieces and communicate better about when we are unable to complete them.

- Focus on the design patterns from the start.

xGame Demo!

Questions?