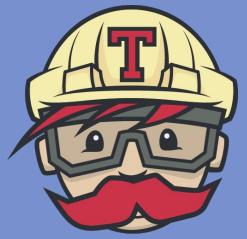
Byte Mechanics



Sprint 3 Presentation

Abby Rictor, Aislinn Jeske (Scrum Master), Farzaneh Elyaderani, Marylou Nash, Zachary Klausner

Congo

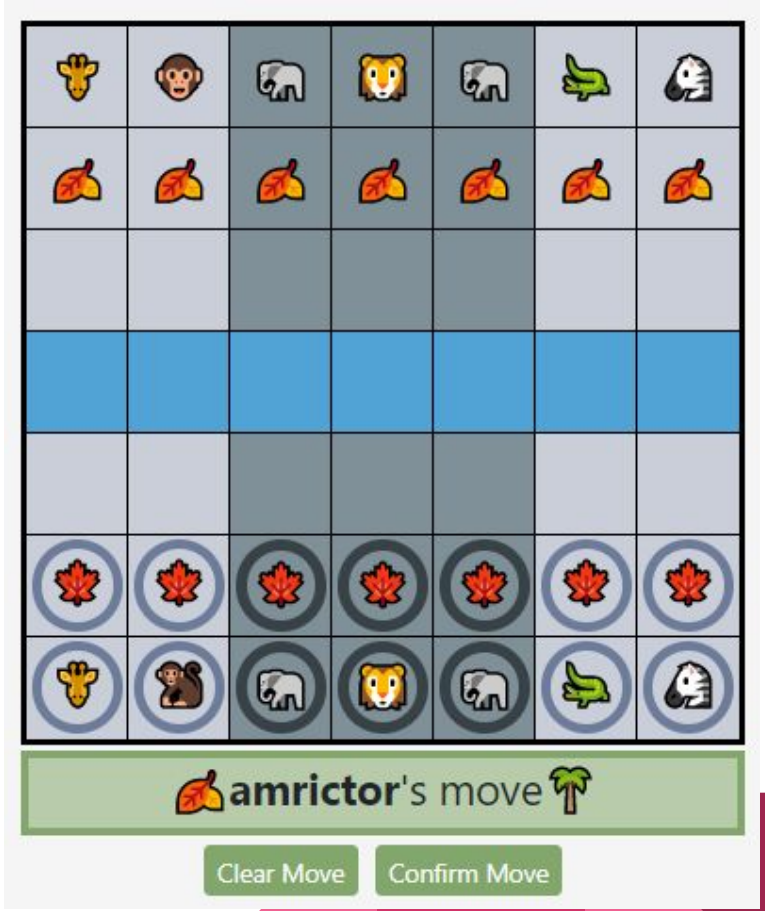
- Congo is played on a 7*7 board
- Designed for two players
- Player owns a set of pieces , animals and pawns

- A pawn 🍁 can get promoted as a super pawn 🌳

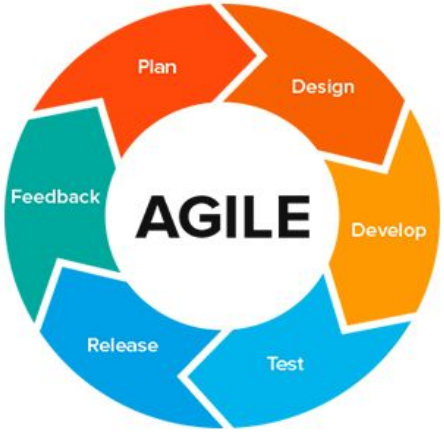
- A river in middle row
- Pieces will be drown

- Two 3*3 castles 🏰 to house lions 🦁
- Game ends when a “lion” is captured

- Winner 🏆 who captures lion



Process/Tools



Agile Methodology
Scrum

Slack
GitHub

Google Drive

GitHub

slack

Process/Tools

Maven
React
NPM (Node Package Manager)

Java
Java Script

IntelliJ

Junit
CodeClimate
Travis CI

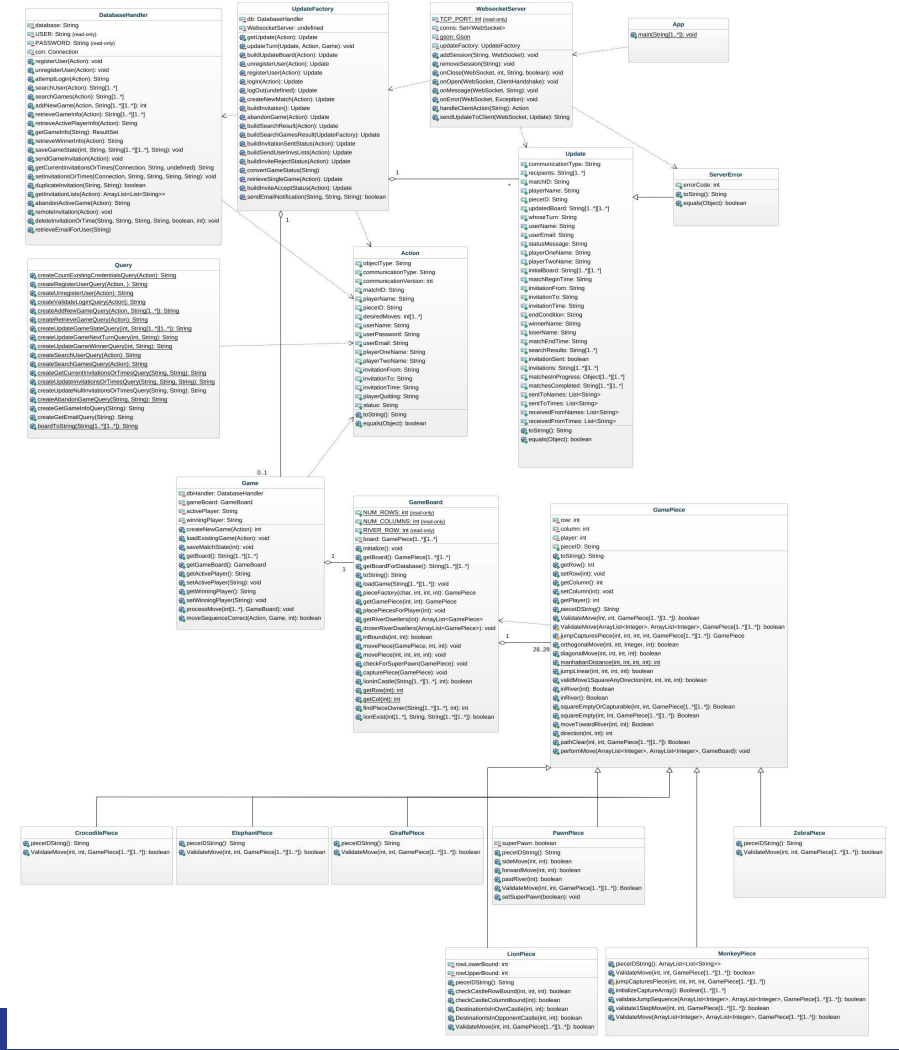
Design Decisions

- Client - Server system. Users interact through a client (JavaScript) in their browser and communicate with a server (Java). An instance of WebsocketServer manages this communication.
- Clients and server communicate via WebSocket connections. They send and receive data in the form of JSON objects. Data from clients is parsed into Action objects while Update objects are used to send data to clients.
- UpdateFactory takes an Action object and based on its contents creates the corresponding Update object.
- An instance of ServerError is created and sent to clients in the event of an exception being thrown.
- The server uses a database hosted on faure.cs.colostate.edu to store persistent user data pertaining to games, invitations, and account information. Database interaction is managed by DatabaseHandler and Query.
- The classes Game, GameBoard, and GamePiece are responsible for game mechanics, state, and logic. Subclasses like CrocodilePiece and PawnPiece extend GamePiece to validate moves specific to each piece type.

Design Patterns:

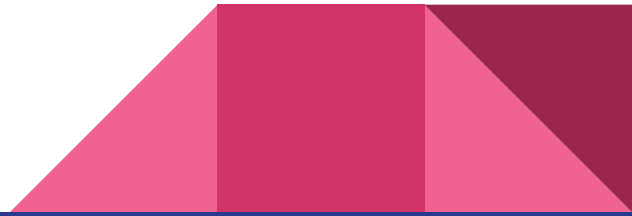
- Proxy: WebsocketServer - controls client access to the rest of the server systems
- Facade: DatabaseHandler - represents the database subsystem to other classes
- Factory: GameBoard - has pieceFactory() method for creating different piece types

Class Diagram



Lessons Learned

- **During this course, we learned:**
  - To plan well and plan early
  - How to start a project from scratch from high level specifications
  - Skills for researching and selecting techniques, languages, and tools most appropriate for completing a project
  - How to work and negotiate with others to arrive at a consensus on design decisions
  - How to play Congo!



Demo:
http://73.95.148.192/