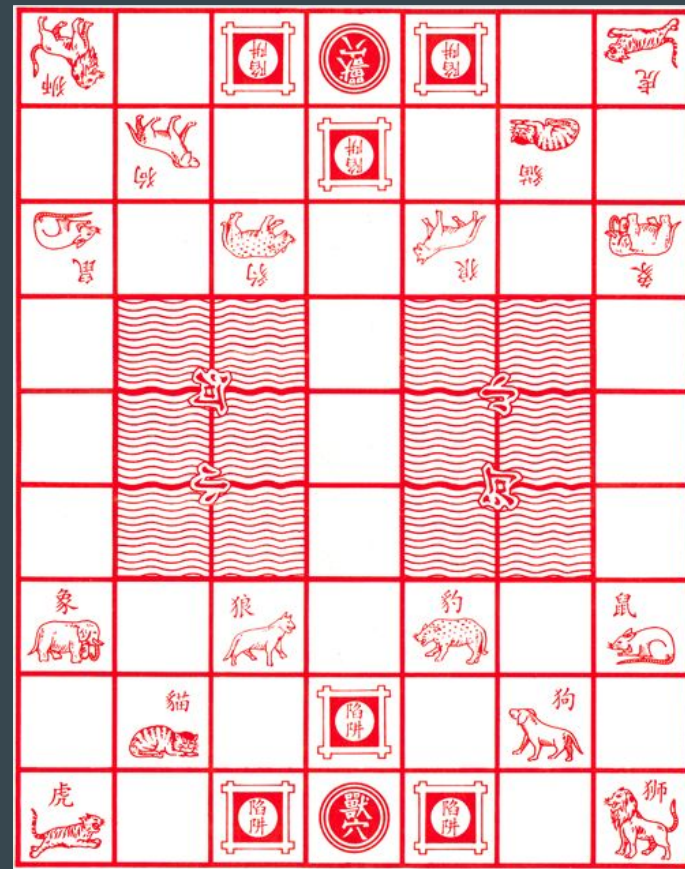# XGame Jungle: Domain Analysis

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And Yet It Compiles

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Jungle Recap

- 2 players
- 16 pieces total
- 9X7 board
- Pieces have power 1-8

Rank	Piece	
8	Elephant	
7	Lion	
6	Tiger	
5	Leopard	
4	Wolf	
3	Dog	
2	Cat	
1	Rat	

# Initial Analysis of Potential Conceptual Classes

Possible Conceptual Classes

- User
- Player
- Game
- Profile
- Game history
- Registered users
- Online users
- Invitation
- Authenticator
- Game record
- Game board
- Game piece
- Game tile

|	
physical or tangible objects	Game board, game piece, game tile, invitation?
Specs, descriptions, or designs of things	Game record, profile?
Places	Game tile? Profile?
Roles of people	User, player
Containers	Registered users, online users, game history, profile
Things in containers	Game record, user
Collaborating systems	Authenticator
Abstract noun concepts	Invitation
Events	

Creating the Model

- As we iterated on the model, we narrowed the possible conceptual classes to the following:
    - Authenticator
    - User
    - Profile
    - Invitation
    - Game
    - GameRecord
   - GameBoard
    - GamePiece
    - GameTile
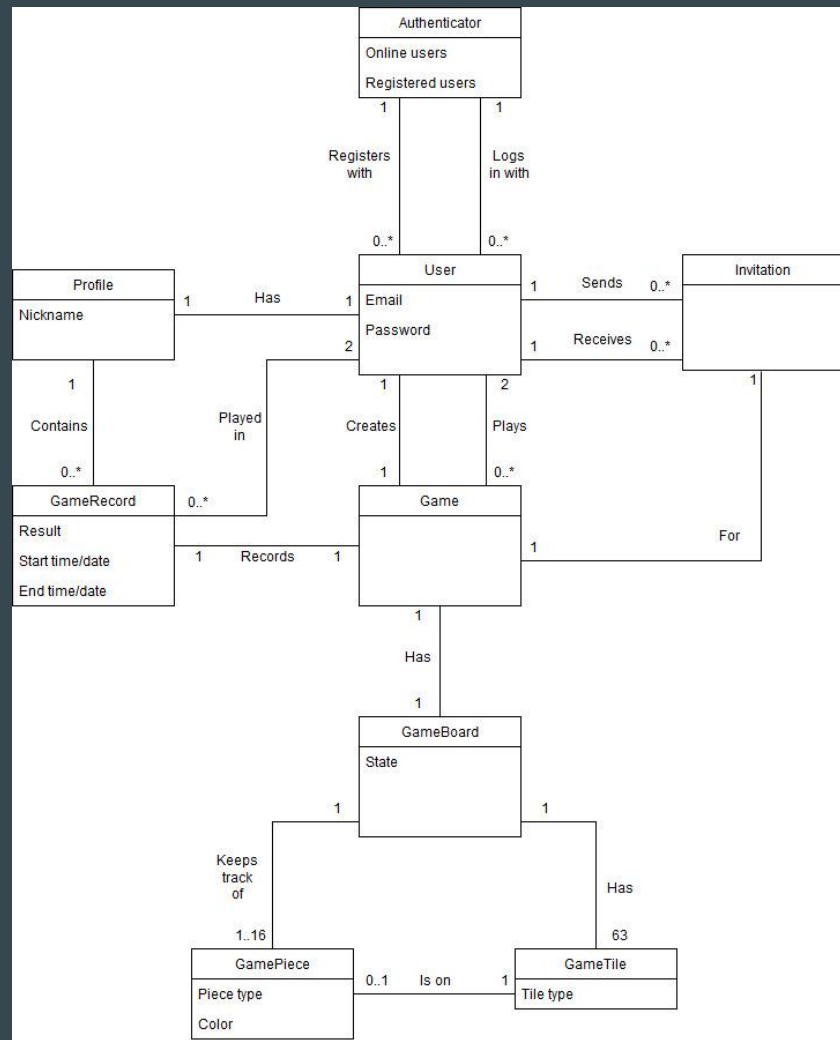
Authenticating Users

- The user registers and logs in to the system using the authenticator
- The user can access to one authenticator at a time, and authenticator can handle multiple users simultaneously
- Authenticator maintains lists of registered users and online users
- User contains email address and password
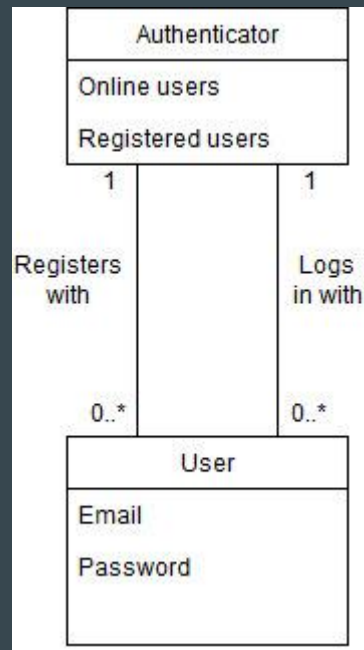
Sending Invitations and Joining Games

- The user can send the invitation to multiple other users
- The user can receive the invitation from multiple other users
- Each invitation is associated with a game
- Once the invitation has accepted, two players start to play the game immediately
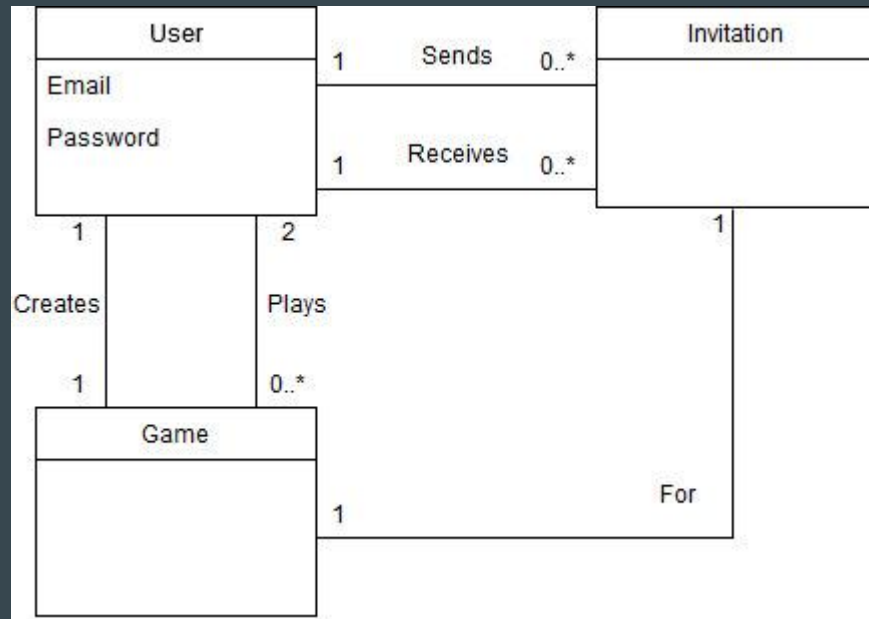
User Profiles

- Each user has exactly one profile
- The profile has a nickname to be shown to the public
- A profile is associated with 0 to many game records
- One game record is made from a single game
- Each record is associated with exactly 2 users who played in the game
- The game record contains the result, and start/end date and time.
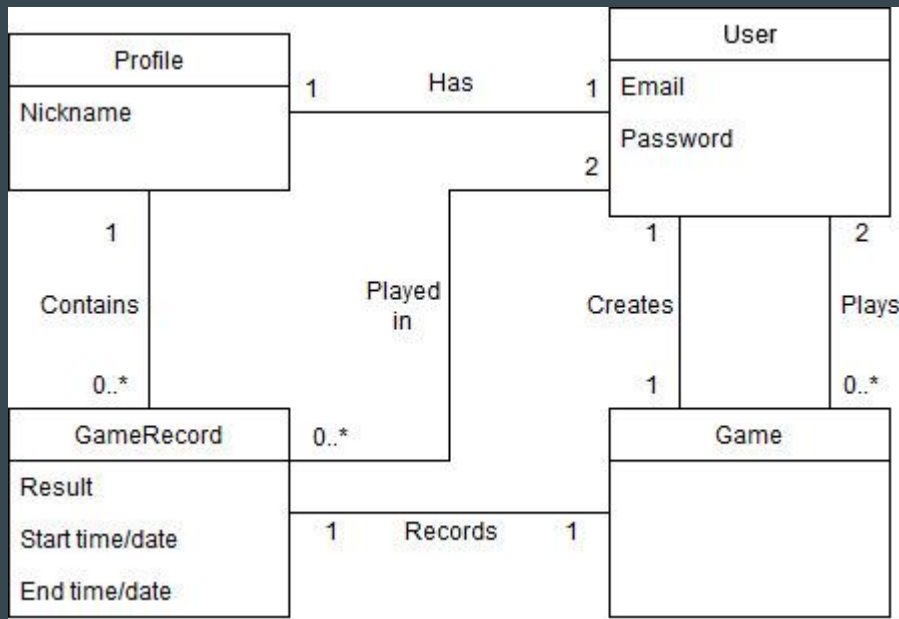
Creating and Playing games

- A user can creates a game session at a time
- Once the game session has created, the system will search for the opponent, and mark it as pending
- If two players are ready for the game, the game starts, and the user can create another game session
- A user can plays multiple games at a time, and a game requires exact two players

The Jungle Game

- A game has exactly one game board
- A game board tracks the state of the board to determine the winner
- A game board has 63 game tiles, and 1 to 16 game pieces
- A game tile can be differentiated based on the tile type attribute
- 0 to 1 game piece can be placed on a game tile
- A game piece contains piece type and color attributes
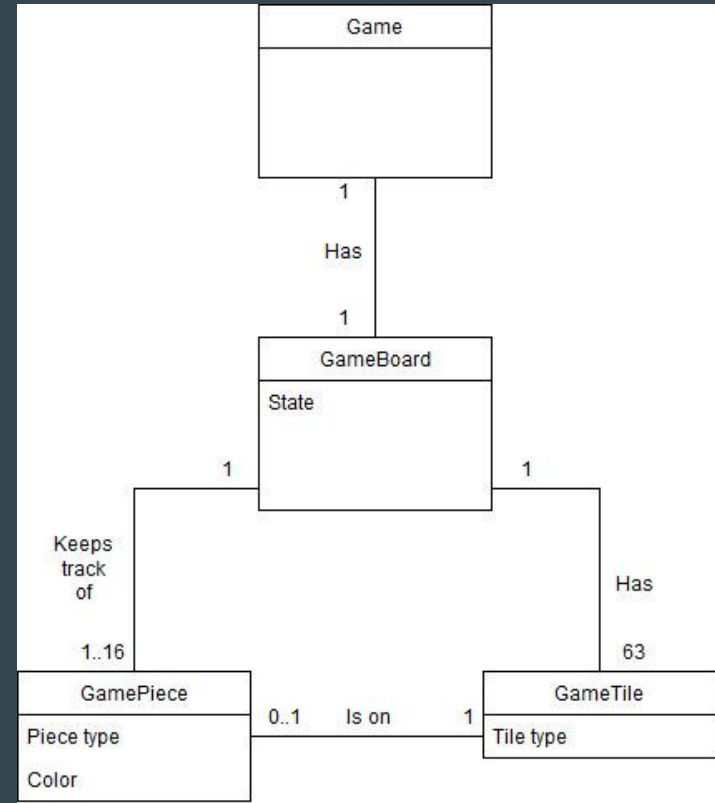
Changes to Use Cases

- Database(Secondary Actor) removed
- Log out use case added
- Playing multiple games is explicitly discussed in the use cases
- Alternative flow for system failure added
- Extension points are explicitly stated in the description

Open Discussion:

- What information should we keep in the system after a user unregisters?