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Database Management Systems

03 October 2024

Project Proposal 10/03/24

Theme: I wish to design a database in conjunction with a chess program that stores data concerning users of the program and games of chess.

Stored data would include specific information about the players, including names, usernames, profile pictures, and resident countries. It would also hold extensive data representing a player's game history, including number of games, record, head-to-head matches between users, and specific information about each game. Each game's data would include a FEN string (which represents the sequence of moves made in a game), the date and time it was players, the players participating, and the victor. There would be a social aspect involved, with users having friends in other users and the ability to chat with one another. These chats would be stored along with each user's list of friends. The database would also implement an elo system for each player, which is commonly used in the world of chess to represent a player's skill level. The program would determine a player's elo change after each win or loss, and the result would be represented accordingly in the database. Also present in the database would be a log of a player's elo changes over time, including a player's peak elo and the game after which each change was made. The database would record analyses of each potential head-to-head matchup between different players, using each player's elo to represent the potential skill advantage one player would possess over another in a game. Finally, the database would store common opening moves

that are used in games of chess as well as their names. These openings would be attributed to any game that follows the correct move pattern.

The reason I have chosen this idea for a database is because a simple Java chess program is something I have worked on in my own time, and I would love to implement a database into the program from my work on this project. It would make my project much more dynamic and interesting, and would be a useful and practical demonstration of what I have learned in CPSC 321. While this is the application the database is being specifically designed for, the goal would be a database that could have value to any general chess program, or even potentially a program that would store data from in-person tournament games in a database.