Project Proposal

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This project will be a minimalist chess puzzle game with a focus on mate-in-one problems. Now to be clear I am not talking about creating a chess engine in which the user can play against a computer (as that is outside of the scope of this project); instead this will be a selection of mate-in-ones which have a single correct answer to the problem. I am wanting there to be at least 100 different problems for the player to solve, most of which coming from famous grandmaster level games. So, the user will be presented with the board one move before checkmate, and the user must play the correct move or try again.

What made this project idea come up is the new resurgence of interest in chess thanks to the Netflix show “The Queen’s Gambit” and the popularity of chess streamers on Twitch. These things got me back into chess (I used to play in local Las Vegas tournaments when I was younger), and I am sure it has gotten more people into the game. This project will be aimed at people who are relatively new to the game and want to work on basic mating patterns and tactics. I am also planning on making the interface simple, minimal, and welcoming to new players.

Compared to most other chess programs out there in the world, this will be far simpler and more focused on the casual audience. The largest and more important piece of chess software on the market currently is Fritz 17, this program is massive and retails $89.95. As you can probably tell from the price tag, it is geared towards the more serious chess player. In fact, most chess software out there is meant for the niche audience of competitive players. For free options there are things like chess.com and lichess.org which are where a majority of players play online, but they are much more of a large chess platform than just a collection of puzzles.

Another program, which was one of the inspirations for this project, is Zen Chess. This is a collection of mate-in-ones with a simple interface aimed at a casual audience, but unlike my project it is a paid game on Steam (albeit very affordable). In a way this project can be seen as a “de-make” of sorts, a simpler version for free aimed for use on Windows, Mac, and Linux. One feature I am wanting to add is the use of PGN files (short for Portable Game Notation) which is a raw text file of a chess game which can be used to create the board positions, also they are designed to be easy to parse for programs. Having this ability would allow users to add any games and positions they want, making this a very open and free game which is always a plus.

The main issues I think will come up will be focused around displaying everything in a clean interface and having the board and pieces align correctly; it will take plenty of testing to get things correct here as I am not quite as good at front-end as I am on back-end development. Here is the list of issues I see possibly coming up:

1. As stated above, getting the board and pieces to look correct and neat.
2. Parsing through the PGN files, as Java is not the best language for text parsing this could be an issue. I may utilize sed, awk, and/or perl to make my life easier on Mac and Linux, this of course would be an issue on Windows.
3. I am planning on having the board/pieces arranged in a two-dimensional array, the board is 8x8 so that is easy to remember, but I may experiment with other options if that proves to cause issues (lists may be better overall).

Mainly this is a passion project, when I was younger I was a competitive player (almost 20 years ago now, time flies I suppose) and my father was a competitive player for years and was rated right below master level (which is 2000 ELO). I have always had a passion for the game and it has always had an interesting relationship with computers, for instance the story of IBM’s Deep Blue vs Gary Kasparov had a huge influence on computer science. The collision of these two worlds seemed like a very interesting project to pursue!