

Individual/Team Final Project

(You can use multiple pages for your description)

ECE4122\6122 Project Name: Chess Titans

Team Member(s): Dinyar Islam (903586832) and Sushant Guha (903590247)

Project Statement of work:

We propose developing a 3D chess video game that allows a player to play against a computer. We will develop a chess engine from C++ using multithreading or OpenMP. This will allow the engine to perform a higher number of analyses concurrently. The engine will be a minimax style engine that uses Alpha-Beta pruning. We will use OpenGL to build a 3D video game that allows the user to play against the computer. There will be animations of the pieces moving. There will also be some audio involved when moving the chess pieces, when a player is in check, or when the game is won. The player will be allowed to choose the chess board and pieces texture. The player will be able to choose their difficulty level (This will change the depth of search and analysis by the minimax function).

Possible extra credit opportunities:

1. Saving current games and loading them again.
2. Rotating the board.
3. Loading their own positions to analyze the best moves (The player will be allowed to change the location of the pieces to analyze the position)
4. Show the player's next available moves.

If a team project then list a statement of work for each team member:

Team Member: Dinyar Islam

Statement of Work: Developing the OpenGL 3D video game that will allow users to interact with the board and see their opposition's position. Will also work on the audio component of the project and allowing the player to choose the board texture.

Team Member: Sushant Guha

Statement of Work: Developing the chess engine that the computer will use to make its moves. I will find all the possible moves for the computer to play and use a minimax-style engine using multithreading to determine the best move. I will also work on changing the depth of analysis depending on the user's chosen difficulty.