CHESS

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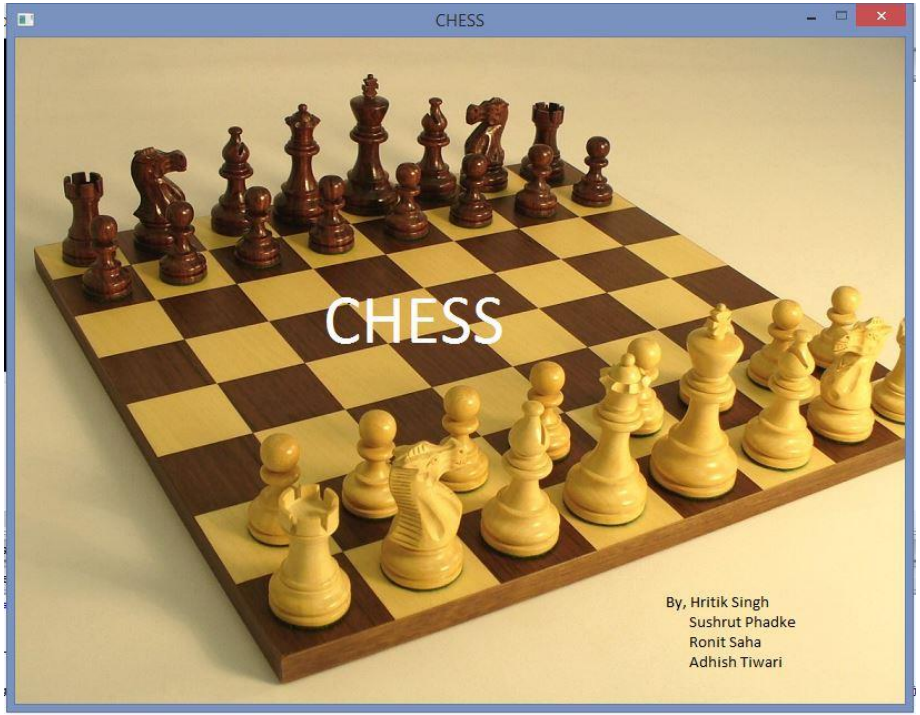
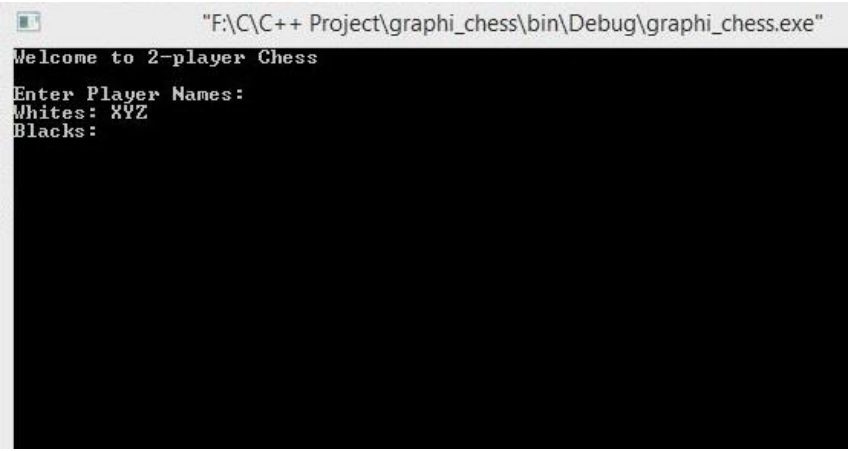
Problem Statement

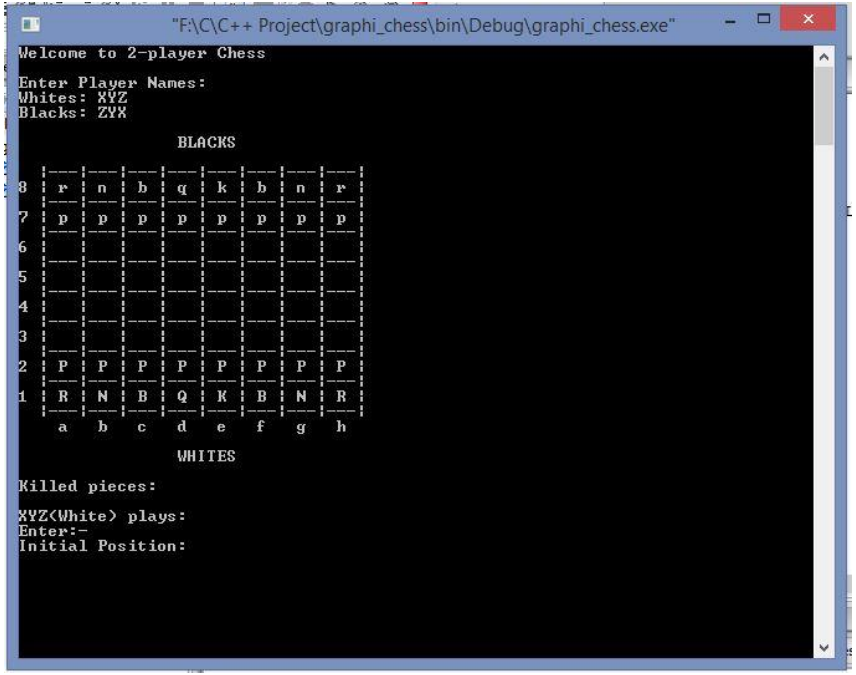
1. Development of a two – player chess game that serves as an entertainment tool.
2. Making it as User friendly as possible.
3. Checking validity of moves of each piece.
4. Keeping record of pieces that each player has killed.
5. Displaying the winner at end of the game or telling the players if the game is a Draw.

Project Screenshots/Video

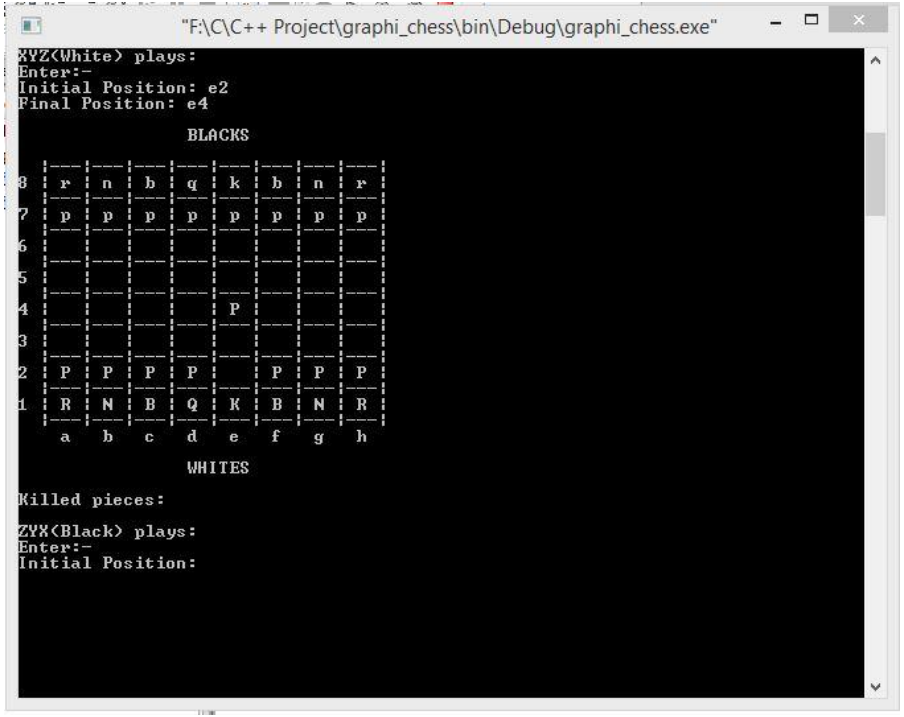


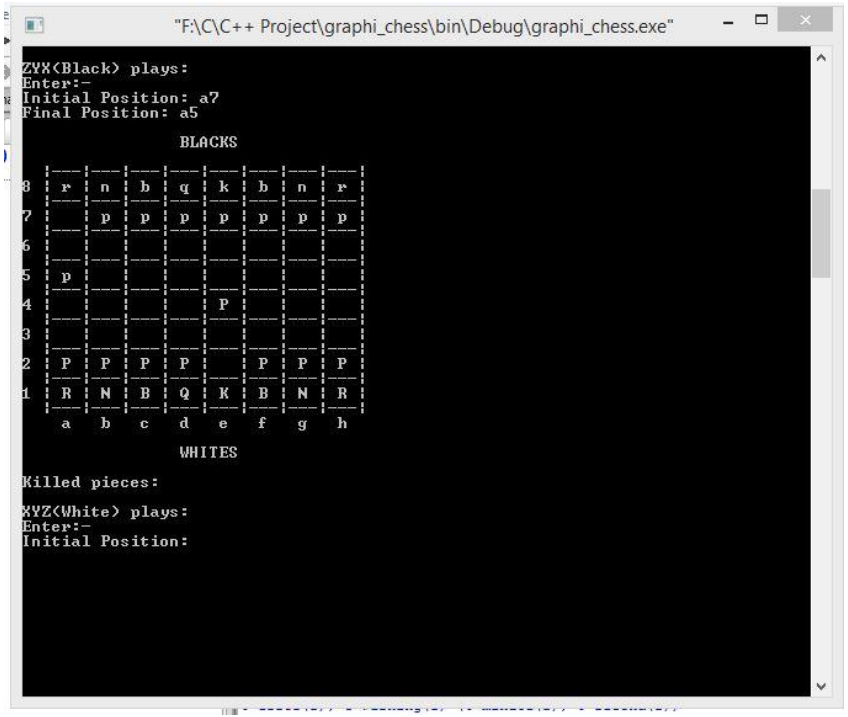
Screenshot: Initial Screen



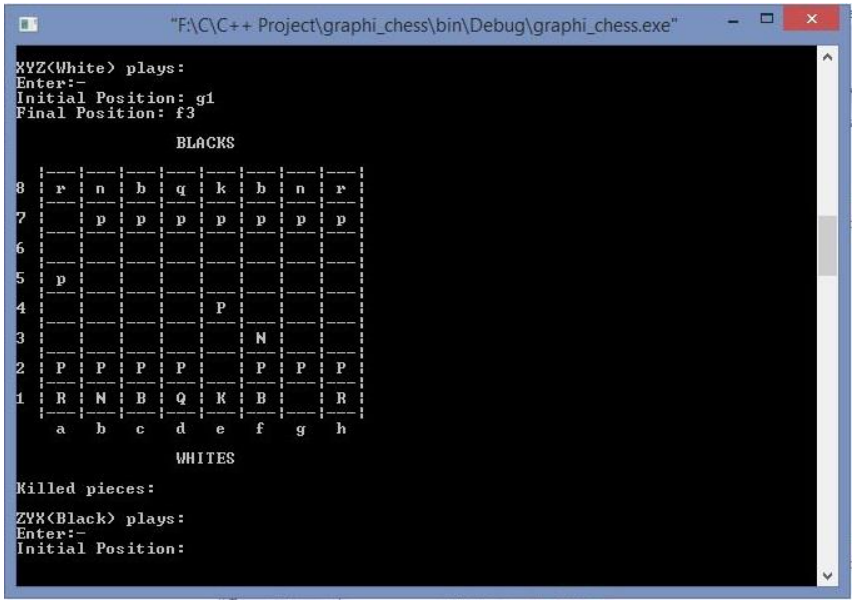


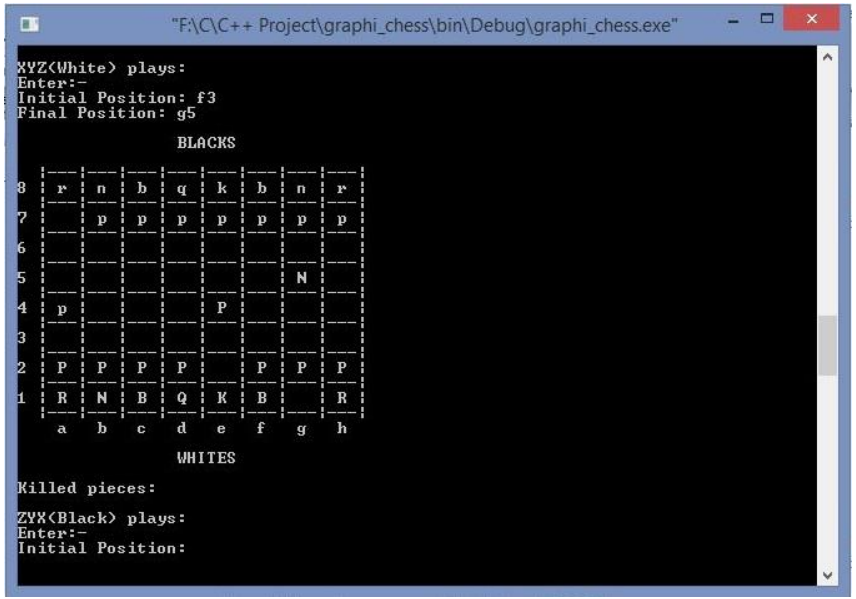
Screenshots: Basic Pawn Moves



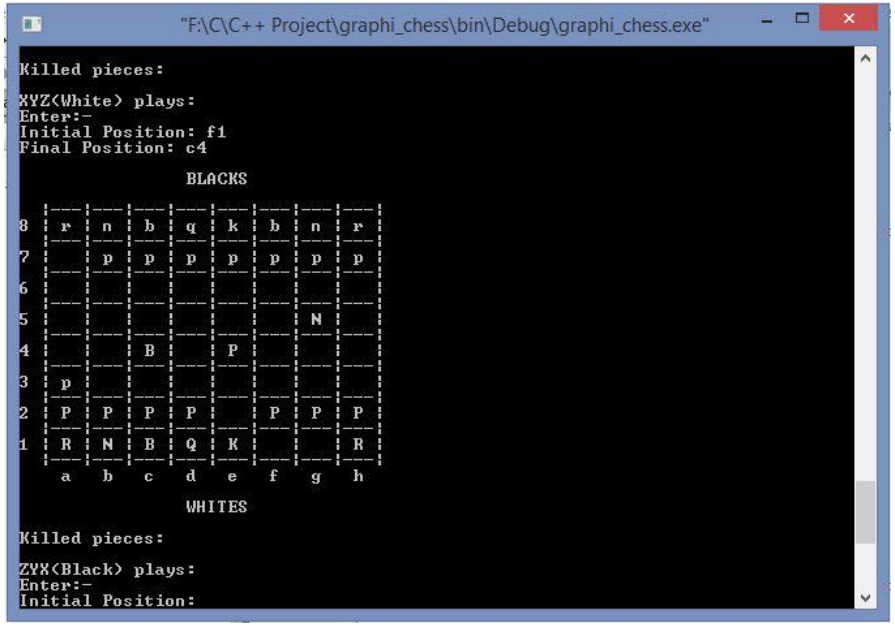


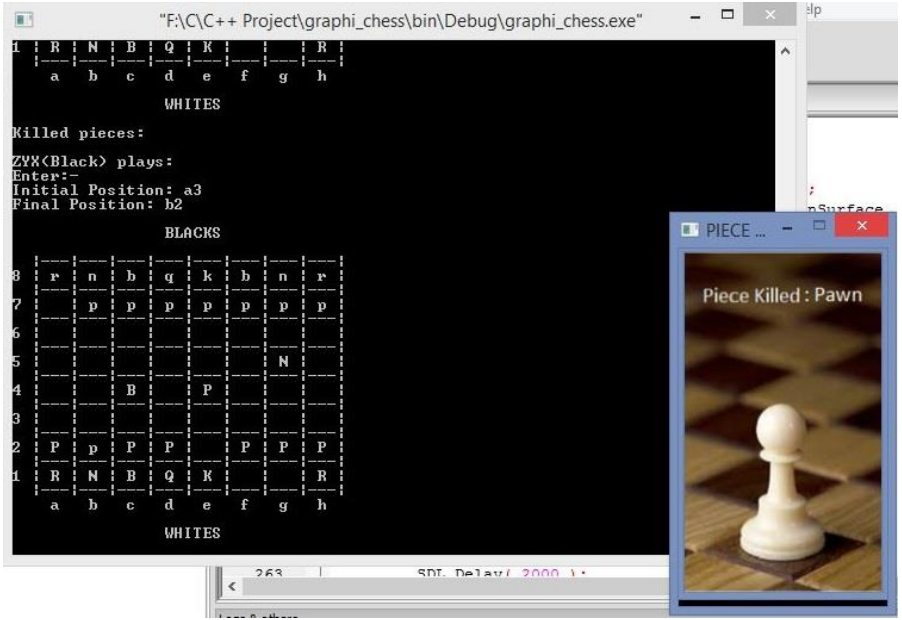
Screenshots: Knight Moves



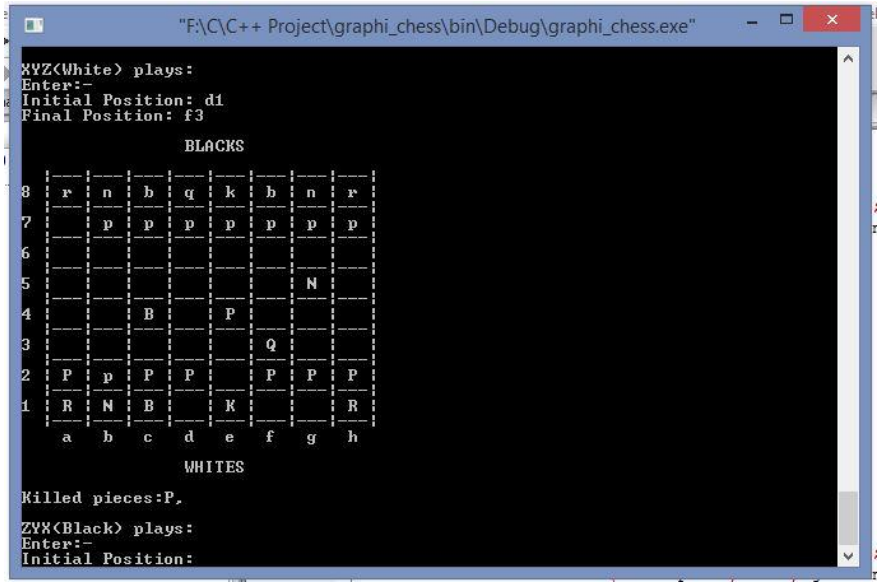


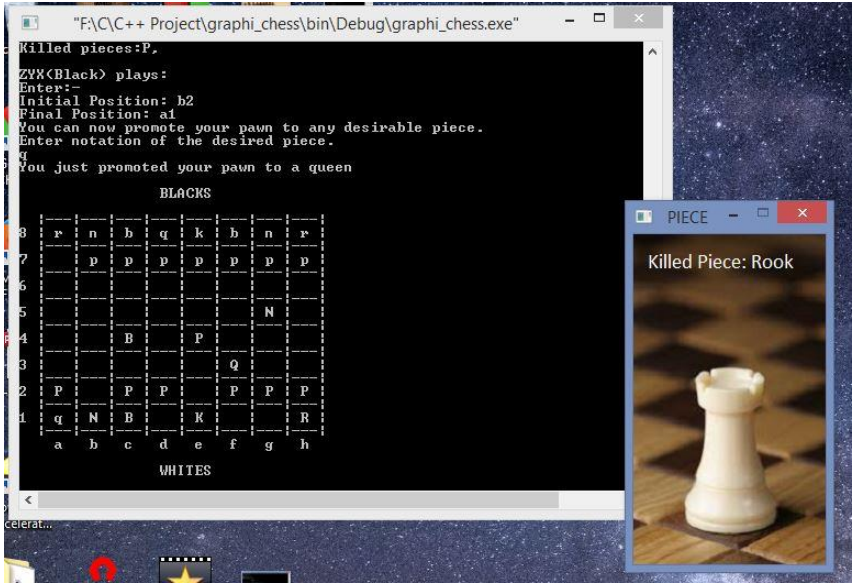
Screenshots: Bishop Move and Pawn Capture



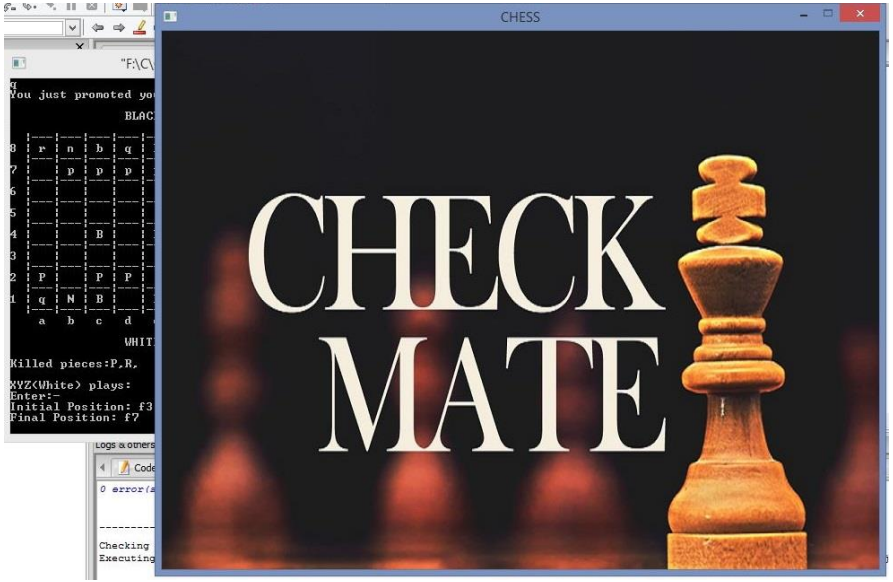


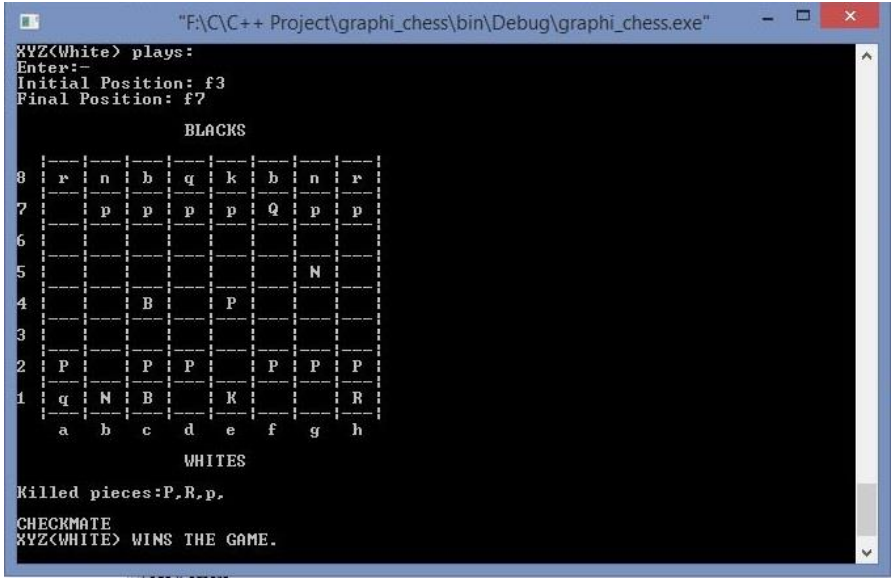
Screenshot: Queen Move, Pawn promotion and Rook capture



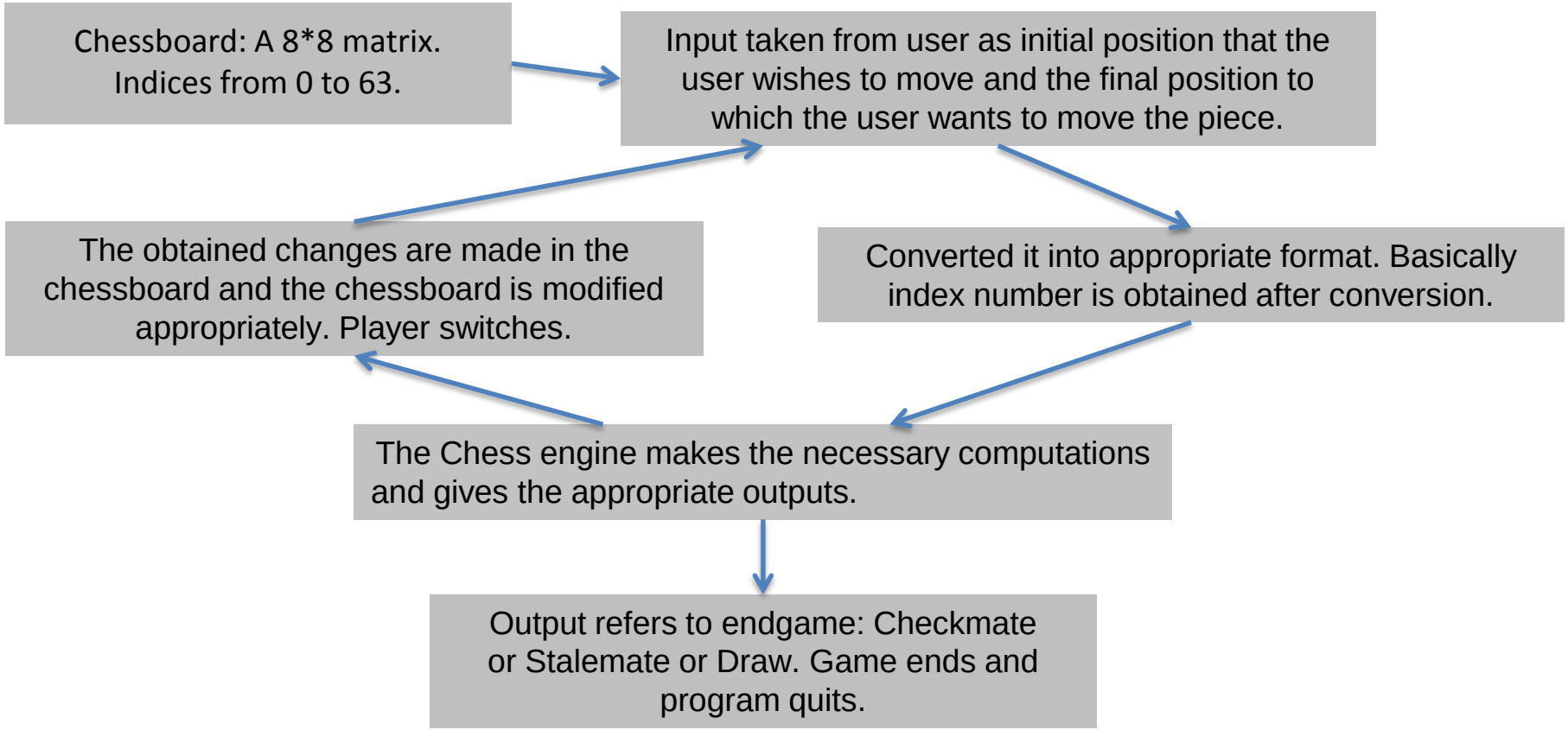


Screenshot: Checkmate and Final Chessboard

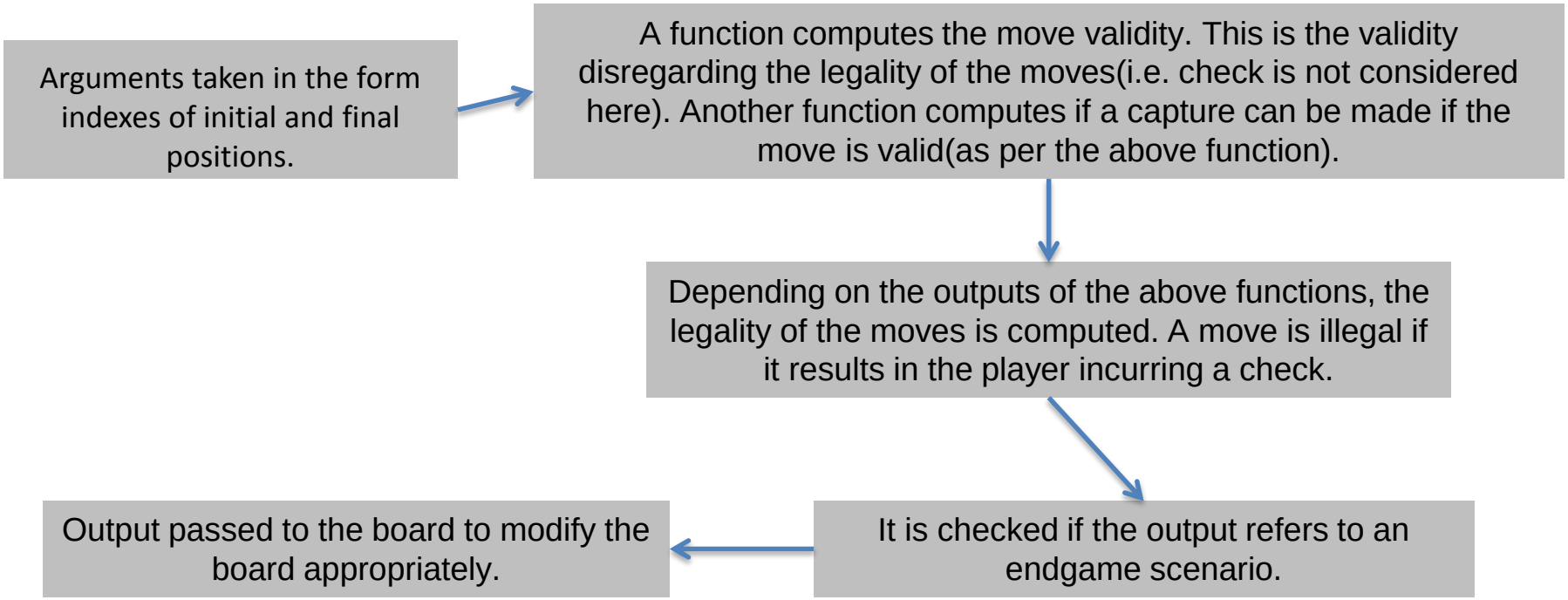




Algorithm(Game flow)



Algorithm(Engine)



Challenges

1) As most of the code is written using pointers, many errors related to pointers such as bad access, memory leaks , etc. occurred.
2) Such errors were solved by regular googling of the errors. As many of such errors were faced previously, satisfactory solutions were found on websites like stackoverflow and other forums.
3) Implementing graphics was another challenge. As the work on GUI was started pretty late(not a part of the main problem statement), sufficient justice couldn't be given to the GUI.

Future Work

1) Improvements can be done in the code itself. A better, shorter and more efficient code can be written.
2) A very good GUI can be implemented. Mouse click can be used effectively in place of keyboard inputs.
3) A single player AI can be coded. We gave a try to it too, however we fell short of time in understanding the related theorem and then implementing it. The process was left half way by us, however sufficient justice can be given to it in the future.

Thank You