Chess

# Game Design Document

## Daniel Casey



Concept

# Genre

The genre of this game would fall under tabletop simulators as well as 2 player games. The game will be intended for 2 players to go head-to-head to see who can beat the other.

# Key features

The key features of this version of chess include:

* showing the players what moves they can make.
* Restricting players moves so they cannot make an illegal move.
* Automatically checking to see if the player is in check or checkmate and display the message appropriately.

# Platform / target hardware

The game will be intended for a PC platform as the controls will be keyboard and mouse inputs as well as the MonoGame Frame in which the game is built in will be done on a PC.

# Art style

The art style will be simple, and assets will be obtained for the chess pieces to make the difference between the pieces clear.

Specification

# Mechanics

The game will be operated by mouse input by hovering the curser over a piece and by clicking and holding down the left button the player will be able to “Pick up” a chess Piece and when released the player can “Put Down” a chess piece if it is a legal chess move.

The Game will automatically check if the move is legal and return the piece to its original position if it is not and let the player attempt another move.

Legal moves include if the new position is in accordance with the piece that was selected if the new move puts their own king in check or if the king is in check if the new move takes there king out of check.

The Win States and Fail States operate simultaneously as when on player wins the other loses.

Win States include:

* Capturing an opposing piece.
* Getting a pawn to the opposite side of the board resulting in them being promoted to a Queen.
* Placing the opponent in check.
* Placing the opponent in checkmate resulting in the game ending and the player winning the game.

Fail States include:

* Losing a piece.
* Failing to stop an enemy pawn reaching the opposite side of the board.
* Being placed in check.
* Being placed in checkmate resulting the game ending and the player losing the game.

# User Interface

The Start Screen will show the Title of the Game and a clearly marked start button.

A Message Box Displays is displayed during game time that lets the players know who’s turn it is, whether a move is legal or not. When the king is in check it will display whether, the king can move, the offending piece can be taken, or the offending piece can be blocked.

The players use the mouse to select the chess piece they want to move and if the piece has available moves the board updates its colours to show these moves. If the space is empty, it will show green or if the space contains an enemy, it will show it as red to indicate to the player that it is a potential taking move.

# Assets

The chess board: Made by Me in MS Paint

A White Square with a black boarder that has is colour changed when loading in the chess board, chosen for its simplicity and ability to have its colour changed while the game is running.

![Shape, square

Description automatically generated](data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAADIAAAAyCAYAAAAeP4ixAAAAAXNSR0IArs4c6QAAAARnQU1BAACxjwv8YQUAAAAJcEhZcwAAEnQAABJ0Ad5mH3gAAAB4SURBVGhD7dpBCoAwDADBxP7/yRIVin5hE3egtNcl5NaMiLpPe8e+23snUtVzMJlPwqCJGELzj2U/69wvhpVrvz4uO5UhNIbQGEJjCI0hNIbQGEJjCI0hNIbQGEJjCI0hNIbQGEJjCM2YED8M0BhCM2/ZuxsykYgLO0ARWxC4UpYAAAAASUVORK5CYII=)

The button Image: Made by Me in MS Paint

A simple purple rectangle with a slightly different shades of grey in the border used to give the button some depth.

![Shape, rectangle

Description automatically generated](data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAAMgAAAAyCAIAAACWMwO2AAAAAXNSR0IArs4c6QAAAARnQU1BAACxjwv8YQUAAAAJcEhZcwAAEnQAABJ0Ad5mH3gAAADQSURBVHhe7d0xDsIwEADBQEHDi2io8q9U/CoSX4MoKPTg7WYkS+d+ZZd3WpZlnucJhjq/z7qu+wVG2cJ60xZjbV/hPt0e932An12fl334vFgwlrBICIuEsEgIi4SwSAiLhLBICIuEsEgIi4SwSAiLhLBICIuEsEgIi4SwSAiLhLBICIuEsEgIi4SwSAiLhLBICIuEsEgIi4SwSAiLhLBICIuEsEgIi4SwSAiLhLBICIuEsEgIi4SwSAiLxHeXDvzvWFHoxWKkY42csBhsa2uaXhBREQ0oHO/FAAAAAElFTkSuQmCC)

Message Box: Made by Me in MS Paint

A Simple black box with the intention of making a stronger contrast for the messages produced in game during runtime.

Shape, rectangle

Description automatically generated

The Chess Pieces: https://opengameart.org/content/chess-pieces

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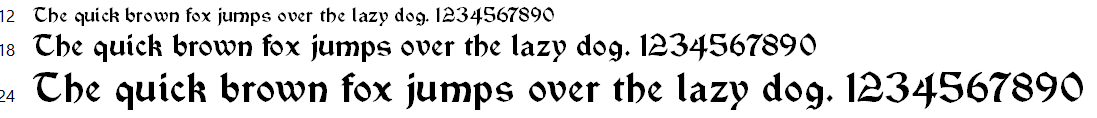
Simple Chess Piece Images Downloaded from opengameart.org with a public domain licence.

Also required editing by me as background was not transparent.



Main Title font: <https://www.1001fonts.com/1890s-fonts.html>

Licence states free for personal/commercial use.



Checkmate Fanfare: <https://freesound.org/people/FunWithSound/sounds/456966/>

Licence Creative Commons

Used when either player successfully checkmates the other.

Pick up and Put down sounds: <https://freesound.org/people/guitarmaster/packs/3567/?page=2#sound>

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A collection of guitar notes, A note Muted for pick up and F note Muted for put down.

Wrong move sound: <https://freesound.org/people/TheBuilder15/sounds/415764/>

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Used when player attempts illegal move.

Opening Fanfare: <https://freesound.org/people/joepayne/sounds/413203/>

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Used when the application opens.

# Story and characters

The story of chess is 2 nations at war attempting to force the opposing teams king into checkmate. Each side has the same set up 8 Pawns, 2 Rooks/Castles, 2 Knights, 2 Bishops, 1 Queen and 1 King. Each piece has its own special moves, the pawns can only move in on direction depending on their colour and can only capture an opposing piece if they are diagonal to the pawn. Rooks can only move in strait lines; knights can only move 2 steps in one direction then 1 step in another. Bishops can only move in diagonals and the Queen can move both in strait lines and diagonals. While the king can only move 1 square at a time.

Each player takes a turn with white starting first. The goal is to put the opposing king under threat and removing its chance to escape. The king cannot put itself in to a position where the next move would allow the opposing player to take them. If the king is in check (under threat from being captured by the enemy) the player must move the king out of check by either placing the king in a position where they are not under threat, taking the offending piece or by blocking the attack by moving another piece between the king and the offending piece. If the king cannot move itself out of check or any of its moves puts itself in check then the king is in checkmate meaning the other player wins the game.