**Software Design  
Document**

for

Game of Chess

Version 1.0 approved

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Condor Army

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# Revisions

| Version | Primary Author(s) | Description of Version | Date Completed |
| --- | --- | --- | --- |
| Init 1 | Kevin Zarzana | Took IEEE template and built basic document specific to Game of Chess | 02/11/18 |

<This template serves as a basis for a Software Design Specification. As in the SRS document, all italics refer to the “comment” style. Comments in blue are general and apply to any SDS, these that are in black are applicable specifically for this course. This template is based on the work by Karl. E Wiegers, Steve McConnel of CXOne group and the IEEE standards.>

# Introduction

## Purpose

The Game of Chess program is a program used to play a game. The program allows for a User to play chess against a computer player. The player can select the board pieces presented on a 3-D game board and move the pieces with mouse clicks on the game board.

## System Overview

The Game of Chess begins with a opening title screen giving the option to Play a New Game, Load a Past Game, Change Settings, or Quit. After the New Game button is pressed the program will load the Game Board and pieces in the starting positions. If the Load Game button is pressed a list of previously saved sessions will be presented and the User will be able to make a selection of which game to load.

<Brief high-level description of system structure, functionality, interactions with external systems, system issues, etc.

## Definitions, Acronyms and Abbreviations

**Chess** – A game in which 2 players move game pieces in an attempt to eliminate the other opponents King piece.

**Piece** – Standard game piece, used as a base Class for rest of the Chess game pieces. Moves along the 8 x 8 chess grid board.

**Queen –** Most powerful Chess game piece. Moves an unlimited range in every direction as long as no enemy blocks its path.

**King** – Most important Chess game piece. Moves in all directions exactly 1 spot. The objective of this game is to get the opponents King piece in “checkmate” (Defined further down).

**Knight** – Chess game pieces that move in an L-pattern in any direction. There are two of these pieces per player.

**Bishop** – Chess game pieces that move diagonally an unlimited range unless an opponent blocks the path. There are two of these pieces per player.

**Rook –** Chess game pieces that move vertically and horizontally an unlimited range unless blocked by an opponent. There are two of these pieces per player.

**Pawn –** Chess game pieces that stand in the front line at the games start. These pieces can only move forward 1 space (or 2 if its the piece’s first move) and attack diagonally (forward). This piece cannot go backwards. There are eight of these pieces per player.

**Chess Board –** An 8x8 Black & White grid that the Game of Chess is played on.

**Player** – Computer or human who controls game pieces actions.

**Check** – A Game Status which indicates your King piece is under direct line of fire. Player who is in “check” must move King out of harm’s way this turn or risk losing the game.

**Checkmate** – Ultimate version of “Check”, this means the King piece is under direct line of fire AND there are no possible ways to protect the King. This signals a loss for the player and results in an end of game.

**Attack –** Common chess piece move. All chess pieces can “attack” in which they use their defined movement pattern to end on an opponents piece thus knocking them off the game board and out of play.

**Move Timer** – A countdown timer showing how much time the user must move.

## Supporting Materials

<Note any references or related materials here.

## Document Overview

# Architecture

<The architecture provides the top level design view of a system and provides a basis for more detailed design work. This is the section where you should include your High-Level design Component Diagram.

# Overview

<This section provides a high level overview of the structural and functional decomposition of the system. Focus on how and why the system was decomposed in a particular way rather than on details of the particular components. Include information on the major responsibilities and roles that the system (or portions of it) must play.

# Component 1..n

<Describe an element (subsystem, component, etc...) from architecture in further detail. When appropriate, include information on how the element is further broken down and the interactions and relationships between these subcomponents.

# High-Level Design

<This section describes in further detail elements discussed in the Architecture. Normally this section would be split into separate documents for different areas of the design.

High-level designs are most effective if they attempt to model groups of system elements from a number of different views.

## 1.1 View / Model Component 1..n

<Provide a description and diagrams of a system component or set of components that describes a clearly defined view or model of the entire system or a subset of the system.

# Low-Level Design

<This section describes in further detail elements discussed in the Architecture. Normally this section would be split into separate documents for different areas of the design.

## 1.1 View / Model Component 1..n

<Provide a description and diagrams of a system component or set of components that describes a clearly defined view or model of the entire system or a subset of the system.