MEMO

**To**: New Employee   
**From:** S. Wood, General Manager   
**CC:** T. Reynolds, VP, G. Rutherford, CEO   
**Re:** Your job assignment at HTS Video Games Design

**Welcome to HTS!**

**Your first assignment will be to create a working video game to simulate Chess using objects and classes**

The software to be developed is to be sold in stores across the province to experienced as well as new players to the game of Chess. The game should incorporate 3 levels of difficulty (beginner, intermediate and expert). Each level should increase the number of “special” rules for chess as well as add to the intelligence of the AI. The user should select their difficulty level at the beginning of the game.

**We want to keep information for the top scores for the user**

The scores for the user in each difficulty level should be exported to a file and displayed at the request of the user. This should be an option found in the main menu. They can track their top scores for the game and work to improve their scores. This can be done as a win/loss tally or minimum moves to game end, etc (you have flexibility here).

**We want to have our code easy to change for future manipulations.**

Hierarchy and inherence should be used to effective simplify code as well as made it easy to edit in the future. Individual pieces should be represented efficiently using super classes. Pieces can inherent properties and polymorphism can also be included in array structures.

**We want to have clear rules on movement for our players.**

Pieces need to be easily identified as player or computer pieces (visually). Error checks should be laid out so that the user is not able to make ANY invalid movements. The user must be given a chance to re-enter a proper position on the board to make their move. (You may include an expert option where an invalid move means a turn loss or a beginner option that highlights squares that are possible movements).

Hint options can be incorporated if the user doesn’t know which piece to move. Ie. “move pawn in spot \_\_\_ to spot \_\_\_” Help menus should be incorporated so the user can select a piece and see possible movements for that piece (this can be done by highlighting available boxes on the board or by listing possible coordinates).

The computer pieces must also follow allowed movements in the game. For beginners it is acceptable for the computer to move randomly. Intermediate should have strategy to kill nearby pieces. Expert option the computer should not kill a nearby piece if it means he will lose more pieces from the kill. The special rules in chess should be left out of the beginner option, a few well known special rules included in intermediate and all special rules in expert.

**All instructions and menus must be clearly communicated and user friendly.**

There should be multiple user friendly menu screens including a full HELP menu that explains the basic instructions of the game and how the software works. The user should also have access to a mini help option while playing the game to help with possible movements on a given piece.

All instructions must be clearly communicated and the screen should be easy to understand and view.

**Incremental Development of the Chess Game**

Because developing the whole system as described above could be daunting, the project requirements have been divided into two categories:

1. Initial Requirements must be completely implemented in the project you turn in.
2. Future Requirements must be incorporated into the overall design, but need not be included in the detailed design work or the final coding.

 In carrying out the phases of project development below, please be careful to note whether you are required to perform each activity for the initial requirements only, or for all the requirements (initial and future)!