K-Windows Chess

Chess

V1.0

Includes V4.0 of GNU Chess OSK

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Introduction

Minimum System Requirements:

- MM/1 Extended with at least 3M of Memory

- OS-9/68000 V2.4 or greater

- K-Windows Edition #51 or greater

- GNU Chess V4 (OSK port by Andrzej Kotanski)

K-Windows Chess (KChess) requires an MM/1 with at least 3M of memory. I am not sure if 3M is required, if any owner has the capability of testing this program on a 1M MM/1 I would appreciate hearing the results of that test. (Note: Since GNU Chess itself takes over 600K to run, I seriously doubt that this program will work in a 1M MM/1.) Since an MM/1 is required, it is obvious that K-Windows and OSK are also required. An MM/1a is not required, but is recommended, since the playing of Chess is quite CPU intensive!!

KChess does not actually play the game of Chess. It relies on GNU Chess to perform that function for it. KChess forks a child process running GNU Chess and communicates with it using un-named pipes. KChess provides the graphical and mouse driven interface which makes the process of playing the game more pleasurable for the user. GNU Chess V4.0 is included with KChess. *(Sources available for a nominal copying fee.)*

This version does not have all of the functionality I had originally planned for it to have, I wanted to make sure there was a version to release at the 3rd Annual "Last" CoCoFest in Chicago. For this reason, any purchaser of V1.0 of KChess will automatically receive a FREE upgrade to V1.1 as soon as it is ready. I hope to have something ready by the end of June, 1994.

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Installation

There is only one file on the KChess distribution diskette required to utilize K-Windows Chess. It is filename /u0/CMDS/KChess. You will need to copy it to your normal CMDS directory or the to the CMDS directory of your choice. To copy it to the standard CMDS directory enter the command:

```
$ copy /u0/cmds/kchess /dd/cmds/kchess
```

You must now install GNU Chess. Actually, you do not need to install ALL of GNU Chess, only one of the three variants is actually used by KChess. KChess is what is referred to in the GNU Chess documentation as a "chesstool" interface for GNU Chess, so you only need to install the binary for the chesstool version, this is gnuchessc in the GNUCHESS4.0/CMDS directory. For any of the GNU Chess variants to work, you also need to make a directory /h0/GNUCHESS4.0/MISC and copy all of the files on the GNU Chess floppy from the GNUCHESS4.0/MISC directory into it. Assuming the floppy device on your system is named /d0, place a copy of the GNU Chess V4.0 diskette in it an perform the following commands:

```
$ copy /d0/gnuchess4.0/cmds/gnuchessc /dd/cmds/gnuchessc
$ makdir /h0/GNUCHESS4.0
$ makdir /h0/GNUCHESS4.0/MISC
$ copy /d0/gnuchess4.0/misc/*.* -w=/h0/gnuchess4.0/misc
```

How To Play

To startup KChess just load the program KChess into memory or ensure it is available in your current commands directory and enter kchess at the shell prompt. (Note: For Hyper-Tech Desktop users you can start KChess up with the AIF and icon files provided on the KChess diskette.) When KChess first starts up, a welcome message is displayed in an Overlay Window. You must either click the mouse or press a key for the program to continue.

KChess starts up gnuchessc with a standard os9fork() call so gnuchessc also needs to be either in memory via a load command or available in the process's current commands directory. If KChess complains that it cannot start up GNU Chess and the reason is an OS-9 Error 216, then you do not have GNU Chess installed correctly.

When GNU Chess starts up it reads the /h0/GNUCHESS4.0/MISC/gnuchess.data file and randomly chooses a strategy. Then you are in a standard "play mode". You begin as WHITE and the computer is BLACK, and it is your move. The two pawns on the right side of the display indicate the current status of who has which color.

To move a piece click the mouse on it. It will start to "blink". Move the mouse cursor to the game board location you want to move the piece to and click again. A blinking copy of the piece will follow the mouse cursor across the board as you move the mouse. f it is not a valid move, KChess informs you that the move was invalid and lets you try again. If the move is a valid one, the move will be made and the computer will then make its move. If you decide to not move the piece you have selected, de-select the piece by moving the blinking copy back on top of the original piece and click.

Depending on how you have GNU Chess configured to play, it can take several seconds to several minutes to decide on its move. If GNU Chess has to think more than a half a second to make its move, KChess displays the message "Processing" in an overlay window in the upper right hand area of the Window.

Using the Menus

KChess can access virtually all of the commands supported by GNU Chess as described in the GNU Chess documentation. All supported commands are accessible via selecting first a Menu on the Menu Bar, and then selecting a Menu Item from the *Pop Up* Menu which appears. Here is a description of these Menus and the items on them.

Close Icon

In the extreme left of the Menu Bar is the Close Icon. It's appearance is that of a small open box. Clicking on the Close Icon will open up an dialog box which asks you if you are sure or not. Clicking in the Yes button will shut down the KChess program. KChess will automatically stop the child process it has GNU Chess running in first. Clicking anywhere else on the current Window will shut down the dialog box and return you to the current game.

The rest of the Menu Bar contains Menus depicted by their names. These Menus are *File, Setup* and *Special.*

File Menu

The File Menu contains functions which relate to File Access or Game reset. These items are *New, Open, Save, Save As ..., About,* and *Exit.* Here is a description of these items.

New

This item starts a new game. If you select this item, KChess will ask you if you are sure in a dialog box. Click on the Yes box to start a new game. Click anywhere else to close the dialog box and return to the current game. This function also resets the current gamename to none selected. *(If there is a "current gamename" it is displayed along with the name of the program in the "Title Bar" area of the KChess Window. The current gamename is discussed shortly.)* This menu item performs the GNU Chess "new" command.

Open

This item will search the current data directory for all files which end in ".kch" and display the list of file names in a "standard" MM/1 cgfx.l file picking window. If you select one of the file names listed by clicking on it, that game file is loaded and the game started from the point at which it had been saved. Selecting and loading in a game causes that game to become the current selected gamename, and it is displayed in the window's title bar. This Menu item performs the GNU Chess "get" command.

To not select a game, close the file picker window by clicking in ITS Close Icon. The file picker window will close and you will be returned to the current game.

If there are no files in the current directory that end in ".kch" then KChess just tells you that there are no files available to choose from.

Save

This item will save the current game to a file in your current data directory. If there is a current selected gamename, the current game will be saved to that filename, silently overwriting *(does not warn you that the contents of a file will be destroyed)* the previously saved game stored in it. If there is not yet a current selected gamename, the Save As ... function will automatically invoked. Performs the GNU Chess "save" command.

Save As ...

This item will save the current game to a file in your current data directory. It will ask you for a file name to save it in. If you enter the name of a file which already exists, it will be silently overwritten[1]. The extension ".kch" will be added automatically. Also performs the GNU Chess "save" command.

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[1] I think I really should add an Are you Sure? question if the file exists. What do y'all think?

About

Displays a descriptive message which contains version and copyright information. You must either click the mouse or press a key for the Overlay Window to go away and return you to the current game. No GNU Chess command is invoked.

Exit

This menu item performs the same function that clicking on the Close Icon performs. You will be asked if you are sure in a dialog box. Clicking in the Yes button will shut down KChess (and GNU Chess). Clicking anywhere else will close the dialog box and return to the current game. If the Yes button is selected, the GNU Chess "quit" command is invoked.

Setup Menu

The next Menu on the Menu Bar is the *Setup* menu. It contains functions which deal with setting up GNU Chess and KChess. The items are *Edit, Switch, Reverse, Options, Colors* and *Refresh*. Here is what those menu items do.

Edit

This menu item goes into the board edit mode for GNU Chess. An overlay window, the Edit Window, is opened on the left side of the playing board and each of the 12 possible Chess pieces are displayed, along with a button at the bottom of the window labeled "Clear Board". Clicking in the Clear Board button will remove all pieces from the board. To place one of the pieces on the board, click on it in the Edit Window. It will start blinking. Then point the mouse cursor to the square you wish to place it on and click again. The selected piece will be placed on that position on the playing board. Once you have set the board up like you wish and have finished editing the board, close the Edit Window by clicking the mouse anywhere off of the Edit Board overlay window. You will be returned back to the current game with the board now modified. [2] This item performs the GNU Chess "edit" command.

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[2] One early KChess customer has suggested a way to cancel all editing and return back to the current game. What do y'all think?

Switch

This menu item instructs GNU Chess to switch sides. Since anytime you would call this, GNU Chess would be currently waiting on you to move, when you do a switch, it is now GNU Chess's move and it will automatically compute its next move for what was just previously your pieces. The pawns on the lower right corner of the screen will change colors to indicate which side the Computer has and which side the Human now has. Performs the GNU Chess "switch" command.

Reverse

This is a most absurd function in GNU Chess, IMHO [3] and quite frankly, given the coding methods I used, was one of the hardest of all of the GNU Chess commands to implement. What it does is to essentially rotate the board by 180 degrees. The White pieces are moved to their corresponding places on the other side of the board and the Black pieces likewise. Note that you and the computer do NOT change sides, that is if the Human were playing White when the Reverse item is performed, the Human will **still** be White. In effect, you and your opponent must "switch seats" also. Therefore, the two pawns on the lower right side of the screen will not change. You must now start playing your pieces from the other side of the board.

Options

This opens up a dialog window in which you can modify the current state of various options supported by GNU Chess. See the GNU Chess docs for the explanation of each of these items, except for Confirm which is specific to KChess. For the items which are either on or off, to change the state, just click on the one which is not selected. To adjust the depth, number of moves or number of minutes, click in the "spin box" arrows, up to change the values larger, down to lower the values. When you have made the changes you want, click in the OK button. To ignore any changes click in the Cancel button. Setting the moves to a value of zero will turn Clock operations off. Performs one or more of the following GNU Chess commands: *depth, random, beep, material, easy, hash, book* and *clock*.

The only option which is a special KChess option is CONFIRM. It is set OFF by default. There is an annoying feature introduced with V4.0 of GNU Chess which leaves a file hanging around **each time** you run GNU Chess. Since most users will

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[3] IMHO - In My Humble Opinion. A popular acronym used in the world of *Cyberspace*.

have no use for this file, KChess automatically deletes them when you exit KChess. If you turn the CONFIRM option to ON, when KChess is exited, the process is performed by forking a "del -p" command instead of just a "del" command. This gives you the chance to save one or more of them for input to some of the other utilities included with GNU Chess V4.0 such as the Postscript printing program.

Colors

This item opens up a dialog window were the user can change the colors of the chess pieces and the board squares. Select the item on the left you want to change by clicking on it. *(The White Player's Piece is initially selected when this window is first opened.)* The current selected item has a black box drawn around it. Click on any of the color buttons to assign that color to the piece or square, and to assign the piece's or square's current color to the button. If you exit the window with the Cancel button, no changes will be made. If you exit the window with the OK button, the changes you made will be effected. The Design Custom Color Button is not ready yet, but will be in V1.1 of KChess, free to all V1.0 owners. If you change any of the color palettes, they will be restored the next time you run KChess. *(This is accomplished by creating a file .kchessrc either in your HOME directory (if the HOME environment variable is defined) or in the /dd/SYS directory. It is recommended that you do not edit this file.)* No GNU Chess command is performed by this menu item.

Refresh

This does a refresh of the board. It is included just in case KChess gets out of sync with GNU Chess. It tells GNU Chess to perform a "bd" command and sets the board and its internal representation of the board accordingly.

Special Menu

The next and last Menu is the *Special* menu. It contains special types of commands which didn't seem to fit on either of the other two menus. The items on this menu are *Undo, Remove, Hint* and *Self Play.* Here is what these menu items do.

Undo

Another useless function of GNU Chess, IMHO. In fact, I decided to modify how GNU Chess actually handles this function. With GNU Chess, it undoes the last move. Since during play mode, when you would enter this command, it is your move. Therefore the last move which was made subject to be Undone by the Undo command is the Computer's last move. When GNU Chess undoes the computer's last move, you now become the color the computer was, performing an implied Switch command. I personally did not like that implementation of an Undo command. It would allow you to essentially undo every move in the game, one at a time, but KChess does not allow that to happen.

What I did was to have GNU Chess perform the Undo operation but then tell GNU Chess to perform a Switch command so the computer is back playing the same color again. So, in effect, with KChess, when you do an Undo command, you are essentially asking GNU Chess to make a different move for the computer move just made. However, in my testing, I have found that GNU Chess rarely will actually choose a different move. It really depends on the book and at what stage you are in in the game.

Remove

This menu item essentially does what two Undo commands done in succession would do. It removes the computer's last move and also your last move which you had just made before the computer's last move and then lets you make that move again. This is my impression of a true Undo function in Chess. It is useful for those situations when you make a *dumb move* and GNU Chess captures your Queen with that Bishop you didn't notice!! Performs the GNU Chess "remove" command.

Hint

This menu item asks GNU Chess to provide you with a Hint of what your next move could be. The move will be flashed on the screen. There are a few situations where GNU Chess refuses to provide a hint, in which case K-Chess tells you GNU Chess is not providing a hint. [4] I have also noticed that if GNU Chess does provide a hint, it will invariable be the computer's next move if you then do a Switch command! Performs the GNU Chess "hint" command.

Self Play

This menu item tells GNU Chess to start at the current game placement and begin playing both sides. This is useful for testing how good GNU Chess is at certain Chess situations. You can edit the board and set it up for a known Chess situation, and then tell it to start Auto Play. Or you can start it from a new game and watch it play a full game. [5] Performs the GNU Chess "both" command.

If you want to stop an auto play game you can either click the mouse or press any key on the keyboard. After the next move has been made, a new game will be setup and normal play mode will begin again.

While in Self Play mode, the mouse cursor is turned off.

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[4] Most notably after loading in a saved game or editing the board.

[5] Using the default clock and move settings it takes my 68340 accelerated MM/1a about 20 minutes to play a complete game.

Keyboard Commands

In addition to the commands available from the Menu Bar, there are also three keyboard commands. To access them, you hold down the ALT key and press one of the three command keys. These command keys and their functions are:

h - Opens up an overlay window and displays the output of a GNU Chess help command. Useful to verify that the state of GNU Chess agrees with what KChess thinks they are. Useful for something else described later.

a - Put the program in *Attract Mode*. It does Self Play commands over and over. Self Play normally requires a mouse click (or key press) to clear the screen and start a new game when a game completes to either Checkmate or Stalemate. While in Attract Mode, a self play game pauses at the end of a game for 5 seconds and then proceeds to another self play game. Clicking the mouse or pressing a key will stop the present Self Play game and exit from Attract Mode, setting up a new game to play.

f - force KChess to read one "line" from the GNU Chess pipe. I have seen one instance where KChess got "out of sync" with GNU Chess. I verified this by doing an ALT-h command and saw that the last line of the standard help display was not being displayed. [6]

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[6] Use this command with caution! If you press ALT-f and there is nothing to be read from the GNU Chess pipe, i.e., GNU Chess and KChess are in synch, you will cause KChess to hang. You will need to *Clear* to another window and kill off the KChess and the GNU Chess processes.

Special Notes

Board Editing - GNU Chess's board editing function can only do two things. Either clear the entire board, or to place any piece anywhere. It does NOT support the removal of a single piece with a single command. To simply remove one piece you must first clear the entire board and then perform all of the necessary add pieces commands to place back all of the other pieces back except for the one you wanted to remove!

Another point to board editing, if you add pieces to a full board, or add enough pieces that you or the computer actually has more than 16 pieces GNU Chess may (or may not!) declare the game a Draw after its next move.

Switch vs Auto Play - Auto Play with KChess is implemented by invoking the GNU Chess "both" command. When this is done, GNU Chess displays the moves one after the other as soon as it decides them. So once it has been started, it completes to end of game unless you stop it. And if you stop it, you **must** start a new game, you cannot continue on with the Self Play game at the point where you stopped it. If you want to have GNU Chess play a game with itself and have more time to study each move it makes or to be able to join back in at any time, you can perform repetitive Switch commands.

Demo Version - I have placed "hooks" (#ifdef's) in the code which will allow me to compile a version which will display the game as normal, but the only menu items which are enabled are About, Exit, and Auto Play. I intend to distribute this version to the various information services and offer a free demo disk which contains this version to anyone who asks for it (I intend to advertise its availability). With the demo disk, I intend to inform the potential customer if they return the demo disk with their paid order they will get a $5 discount.

chess.lst files - In previous versions of GNU Chess the information of a game which is used as input to other GNU Chess utilities was obtained with a "list" command. The output went to a file named chess.lst in your current data directory. The current version of GNU Chess still supports the "list" command, but it also **ALWAYS** writes out one of these files when you run it, whether you perform a "list" command or not! And a new one is created EVERY time you run GNU Chess! And they are not called chess.lst, if they were it couldn't create a new one each time. Each has a unique filename based on the system time or something. So, what I have done is to automatically delete all of these files which have been created when KChess is

shutdown normally. *(The filenames all start with the same few initial characters.)* I have not yet implemented a list function, as I want some feedback from users first. Should it create an output file of chess.lst or should it just perform the current GNU Chess function and create some weird filename? Or should the user be able to specify the name? In any case, remember that GNU Chess will ALWAYS create the file as the weird filename, I will have to put in special code to identify the name of the file created and rename it appropriately.

Support

If you have problems with KChess or have some constructive criticism feel free to contact me by whatever means you wish. If you want to call me on the telephone, weekday evenings until around 11PM Eastern or Weekends are the best times to call. Or you can send me electronic mail at any of the addresses listed below. If you have the patience, you can send me a letter via USnail Mail.

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