**ChessPad V 0.5**

Load, browse, modify, delete PGN files, possibly inside zip files. You can get the detailed information about PGN at [http://en.wikipedia.org/wiki/Portable\_Game\_Notation](https://en.wikipedia.org/wiki/Portable_Game_Notation) and about FEN at [http://en.wikipedia.org/wiki/Forsyth%E2%80%93Edwards\_Notation](https://en.wikipedia.org/wiki/Forsyth–Edwards_Notation) . This is the picture of Game view:

ChessPad creates a sample file ChessPad/sample.pgn so the user can get an idea of ChessPad features. Note that all modifications to this file will be lost after ChessPad is restarted.

To make a move click on the piece on the board (the square will be selected like h5 on the picture) and click on the square where you want to move to. ChessPad does not allow illegal moves.

Using Menu button, you can load another game, save your changes, append game to the existing PGN file or create a new PGN file containing the opened game.

When appending to a PGN file the path format is:

…/dir1/dir2/save.pgn

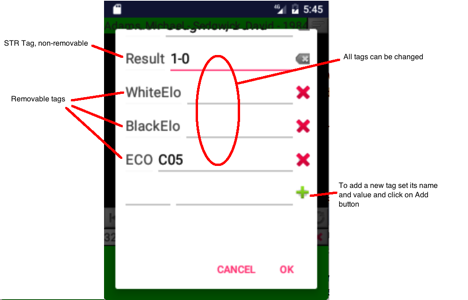
or

…/dir1/zipped\_pgn.zip/save1.pgn

Note: zip file can contain several PGN files but not directories which are ignored.

By clicking on the title line, you get to the screen where you can modify PGN tags.

All tag values can be modified and the tags not included in STR can be deleted. You can also add new tags using the last line:



Using the menu item Setup, you can switch to Setup screen. The position will be copied from Game screen.

To place a piece on the board, tap on it on the pool set, then tap on board where you want to place it as many times as you want. Fling a piece to remove it from the board.

Setup can be finished and ChessPad returns to Game screen only if the position does not have errors, such as no King, more than one King, etc.

To abandon Setup and return to Game screen use Menu ‘Cancel Setup’. The position will be lost in this case.

**Merging variations**. ChessPad merges variations when they lead to the same position. For example:

**1.e4 e5 2.Nf3 {main} (2.Bc4 {v1} Nc6 {v1} 3.Nf3 {v1} Nf6 {v1} $4 4.c3{v1} $7) 2. ... Nc6 {main} 3.Bc4{main} Nf6{main} $5 4.c3{main}**

Note that positions after 3.Nf3 {v1} and 3.Bc4{main} are the same. As a result ChessPad changes the pgn above to:

1. e4 e5 2. Nf3 {main} (2. Bc4 {v1} Nc6 {v1} 3. Nf3 {v1} ) 2. ... Nc6 {main} 3. Bc4 {main} Nf6 $5 {main; v1} 4. c3 $7 {main; v1}

Some important implications:

1. If 4. c3 is deleted, it disappears from both main line and variation.

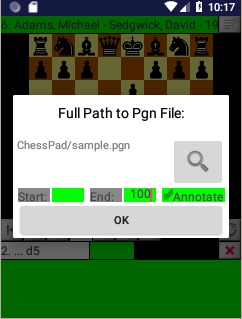
2. If 3. Bc4 {main} move is deleted, its following moves are not deleted, but moved to the variation, resulting:

1. e4 e5 2. Nf3 {main} (2. Bc4 {v1} Nc6 {v1} 3. Nf3 {v1} Nf6 $5 {main; v1} 4. c3 $7 {main; v1} ) 2. ... Nc6 {main}

**Merging games.** You can merge multiple pgn files into one thus creating an opening database. Navigate to the position from which you want to see the available variants, e. g. the position that you see after:

1. e4 e6 2. d4 d5 3. e5.

Click on Menu → Merge command. You will see the following dialog:

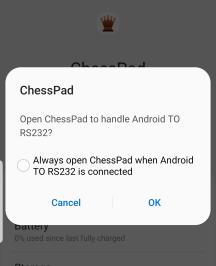
Select a valid pgn file and click OK button. ChessPad will search the specified file and if it finds a game with the same position, it will either add it as a new variant or continue the existing move line until it finds the fork. Pgn file can be inside a zip file. 

Additional options:

Annotate – when it is checked, ChessPad will include the game results to the merged variant as comment.

Start and End – pgn files can be quite large, including tens of thousands games like the files on http://www.pgnmentor.com/files.html#openings Web site. Merging these files can take very long time and Android can even abort ChessPad while it is working on such file. If this is the case, specify starting and ending game number to make each session short. After the merge is done, you can continue merging the same or another pgn file. If omitted, start and end mean the beginning and the end of pgn file accordingly. Even with short sessions the resulting file can be quite large and when loaded, switching from ChessPad to another app and back can take rather long time. For example, on Samsung S9, ChessPad loads SicilianTaimanovMain-merged.pgn (created from http://www.pgnmentor.com/openings/SicilianTaimanovMain.zip by merging games after **"1.e4 c5"**) in about 1 min. ChessPad takes the same time to preserve its status, when user activates another application. Considering that the merged file contains more than 1.7M positions and the status needs to be updated only when the file is changed, this is probably acceptable.

**Working with DGT eBoard**. This option has been tested with an older serial port DGT eBoard and StarTech serial adapter ICUSBANDR232, on Samsung Alpha (V5.0, API 21), Amazon Kindle 5 (API 22) and Samsung S9 (V8.0, API 26 and V9.0, API 27). It is recommended to connect the adapter and the board first, power on both, then connect the phone. When the adapter is attached to the phone for the first time, the user sees the message:



Click on “Always open ...” and OK. Now when ChessPad is running and the board is attached, the user will see the additional menu option:

Start Dgt Board Mode.

If the board (adapter) gets disconnected, ChessPad automatically switches off DGT mode. But when the board gets reconnected, it does not go to DGT mode. The user has to activate it via menu. It is done because when the board is off, the position can change.

When activated, ChessPad records the board positions and moves.

ChessPad has two DGT modes, Setup/Mess and Game. Initially it is in Setup/Mess mode, where the players can set up any position and ChessPad just shows it on its screen, such as:



In this mode the screen is quite similar to the regular Setup mode except for the pieces are set not on the screen, but on the chess board.

Note that squares a1 and h8 on DGT eBoard are physically different, so, unless the players setup the initial position (that is recognized automatically), the user must use Turn eBoard button (which is different from Revert Board button that only reverts the ChessPad screen) to specify the inverted chess board.

ChessPad switches from Setup/Mess to Game mode when:

1. ChessPad recognizes the initial position. This starts a new game.

2. User clicks on 'Setup OK' status message (when it does not display an error). This also starts a new game.

3. ChessPad finds an existing position in the last game. Then the existing game is continued.

4. ChessPad finds that the position on the board can be reached with a single legal move. The existing game is continued, the move is recorded.

The last two situations can occur when players mess up the pieces and either restore the last position or set the new position that is created after the move during which the mess up happened.

In Game mode the screen looks like:

In this mode all position changing fields and buttons (castling, turn eBoard, move number, etc.) are disabled.

In case a move (or moves) was withdrawn, the new move (if different) starts a new variation in the 'game'. This can happen in a casual game or during chess study. ChessPad does not make any judgments, it just records the positions and legal moves. When in DGT Board mode, ChessPad records the games until the user stops it explicitly. Then it writes a new pgn file with all recorded games. It increments Round tag and alternates White/Black tags automatically for every game. The recorded games can be found on Android in ChessPad folder as rec-YYYY-MM-DD\_hh-mm-ss.pgn files.

Some issues with DGT Board were observed:

The connection is not recognized. Disconnect USB adapter from the phone and reconnect it. This is especially true with the older Android V5.0.

ChessPad screen does not show the current position on the board. We saw it only in Setup/Mess mode. Take off a piece and put it back.

**CLI option on desktop/laptop.** Command-line version of ChessPad can be used on any machine where Java 10 or later is installed. Its main purpose is to merge large files and record moves on DGT eBoard when Android device is slow on unavailable. The program can be found at <http://github.com/ab-chesspad/ChessPad/raw/master/target/chesspad-cli.zip>. The file includes the program itself and supporting libraries. Download and unzip the file. Merge option can be used out-of-box.

Example.

Download <http://www.pgnmentor.com/openings/SicilianGrandPrix.zip> into the same folder where unzipped program is located.

Open Terminal window (cmd.exe on Windows).

Navigate to the folder where the unzipped files are located using cd command and type:

*java -Xmx2g -jar chesspad-cli.jar merge "e4 c5 Nc3 Nc6 f4" SicilianGrandPrix.zip/SicilianGrandPrix.pgn SicilianGrandPrix-merged.pgn*

The program will go through all games in SicilianGrandPrix.pgn, test them on including the position that is created after the specified moves and merge them into SicilianGrandPrix-merged.pgn file. After that you can upload pgn file on Android and open it in ChessPad or any other program that understands pgn format.

**Using DGT eBoard on desktop/laptop.** This option has been tested with serial port DGT eBoard and TechT00 USB to RS232 male adapter, on Windows 8.1, Ubuntu 14.04 and MacOSX 10.13.

Installation requires some simple steps and depends on the OS.

***Windows:***

Plug in TechT00 adapter, let Windows install driver.

Launch Device Manager, open Ports, note something like “USB Serial Port (COM3)”.

What you see is the port name that will be used with chesspad-cli.jar.

***Mac OSX:***

Open Terminal.

Navigate to the folder where the unzipped files are located using cd command and type:

*sudo cp lib/macosx/libftd2xx.1.2.2.dylib /usr/local/lib/libftd2xx.1.2.2.dylib*

*sudo ln -sf /usr/local/lib/libftd2xx.1.2.2.dylib /usr/local/lib/libftd2xx.dylib*

Note that these two commands will require you to provide the administrative password.

Plug in TechT00 adapter and type:

*ls /dev/cu.usbserial-\**

You'll see something like “/dev/cu.usbserial-A906SVD2”

This is the port name that will be used with chesspad-cli.jar.

***Linux:***

Open Terminal.

Plug in TechT00 adapter and type:

*dmesg | grep tty*

You'll see something like:

…

[17570.282418] usb 1-2: FTDI USB Serial Device converter now attached to ttyUSB0

ttyUSB0 or /dev/ttyUSB0 is the port name that will be used with chesspad-cli.jar.

Make sure that you are in the group “dialup”.

***Usage on all systems:***

When you know the port that DGT board is using, open Terminal (On Windows click on Launch menu, select Run and type “cmd.exe”.

Navigate to the folder where the unzipped files are located using cd command and type using the port name found above:

*java -Xmx2g -jar chesspad-cli.jar dgtboard COM3*

Wait until you see the message:

**D/chesspad-debug.DgtBoardPad: updatePad: 0x92, DGT Projects - This DGT board is produced by DGT Projects. ..DGT Projects is a registered trade mark. ..111099 OTP/Bus/8KP/8KE/P6/ChessBase. Ver 1.5 Sernr: NNNNN**

If the initial position is not set up, the program will display:

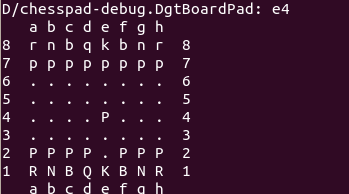
**Restore position on the board or start a new game.**

After the initial position is set, the program will display:

**D/chesspad-debug.DgtBoardPad: updateBoard: status:Game**

**Move pieces or click Enter to finish:**

Now the program is recording the moves on the board. After every move the program displays it and the position, e.g.



When the game is finished, the opponents can just set up a new game and continue playing. ChessPad will be recording all games until 'Enter' key is hit. Then all games will be saved in a single file in the current folder in rec-YYYY-MM-DD\_hh-mm-ss.pgn format.