

Picochess Version 2.0 released - Thank you for a very enjoyable game, Dave!

Hello Picochess players!

hope you don't mind this release version inflation - but this is just my personal release for my own pleasure and fun so I thought I will spend a 2.0 ;-)

I never intended to „publish“ another release for picochess - at least not so quick after 1.0 because it is really hard work and a lot of testing.

For me is just a personal hobby and I am happy to be able to adjust some minor and in the mean time some bigger adjustments to make picochess one of the the best chess computer for training and easy playing...at least for me ;-)

But recently I have been contacted by another developer (although I wouldn't count me as a real developer because I am still learning python ;-)) who wanted to add a really cool playing mode to picochess (greetings to Wilhelm!) and I thought some of my new features might be interesting for you as well.

Now I am pretty happy with my DGTPi & Picochess, so don't expect something like 2.1 or even a 3.0 „release“ (although never say never ;-)

Ah - and before I forget:

BIG THANK YOU FOR INTENSIVE TESTING OF THE 2.0 VERSION TO AL & Wilhelm!



Again: these are personal modifications and might still be buggy - so don't use it without a backup of your previous version and at your own risk ;-)

You find my sources as usual on GitHub:

Github repository:

<https://github.com/tosca07/picochess>

Files to be replaced in...

... /opt/picochess:

- picochess.py
- picochess.ini (just adjust your own one and add the new lines at the end of the default picochess.ini.example_v2)
- utilities.py
- timecontrol.py

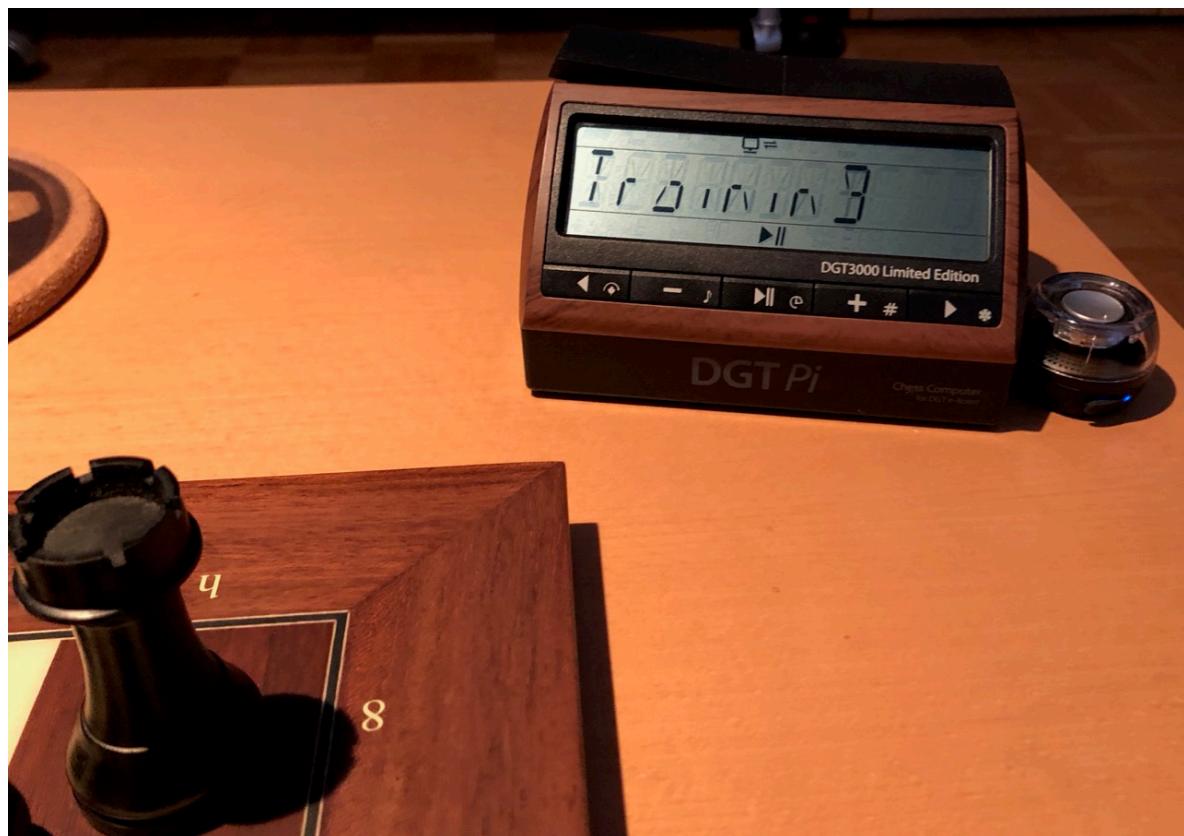
... /opt/picochess/dgt:

- display.py

- menu.py
 - pi.py
 - translate.py
 - translate_old.py (use this one instead of translate.py if you want to keep the old mode names)
 - util.py
- ... /opt/picochess/talker:
- picotalker.py

These are the „features“ of my personal picochess edition, version 2.0 and what it looks like on my DGTPI:

New Training Mode (thanks to Wilhelm!)



This mode is so cool that you really have to try it in order to fully see the value and purpose of this mode!

The mode has been implemented by Wilhelm who also tested my complete picochess version 2.0 along with Al.

Thank you very much Wilhelm, for this new playing mode - I appreciate your

contribution!

Like the name is indicating it is a special playing mode for training:

For training purpose you might want to see just the evaluation/score of the current position during the play against the computer in order to get kind of a „coaching“ feedback.

In normal or brain mode you would have to either press a button to see the evaluation/score of the position after every move and in ponder/Kibitz mode you can't play against the computer.

My newly added rolling display would also not help as you don't want to see the hint move and the calculation & display stop when it is your turn.

Furthermore the score calculation might be out dated in normal/brain mode when it's your turn because the evaluation always assumes the best move to be played by pico and with lower levels pico can play a weaker move and then the calculated value does not match the correct evaluation of the current position when it is your turn (during your thinking time the scores are not adjusted/recalculated, only when it is the computer's turn).

Sounds complicated? No problem, you don't have to bother with that information - just use the new playing mode and enjoy ;-)

Wilhelm has put an example with the Légal Trap on youtube in which he shows the problem with outdated/wrong scores in normal&brain mode and the use of his new training mode (sorry guys - only in german).

<https://www.youtube.com/watch?v=kX2p1CymXxg>

So we would need a mode which will calculate the correct score even when it is your turn and allows us to play against the computer.

So what Wilhelm did is he combined the play modes of „Normal“ with the old „Kibitz“ (new „Eval.Score“) mode - how cool is that!?

In training mode you can play like in normal mode and you will see during your and the computers thinking phase the correct score of the current position. Even in case the computer plays a weaker move then the score would be automatically recalculated when it is your turn.

But that's not all:

For training purpose you often would like to try different variants or a specific opening.

Now you can do this easily in training mode as well:

As it is a combination of the normal and score mode you are able to play the computer moves as well and not only your own moves! Just move the pieces for both sides or play another computers move if it does not please you ;—) Of course it must be always a legal move and all moves played in correct sequence.

This way you can first play moves for both sides and then end with your move and wait for the computer's move.

Even after the computer has answered you can just play a different move you want to eg. a different opening. Pico will tell you that this is not his move you just played (so that you could correct your move if you want if it was done by mistake) with the „set pieces“ messages two times in success - that is so incredible useful!

How does it work?

With this option you can override pico's move in two ways:

1. Just play one of the computers move during his thinking time - Pico will just accept this move as it would have been played by himself.
2. Or after the computer has announced his move just play a different one! Pico will answer with the „set pieces“ messages 2 times in order to inform the user that he just played a different move than picos wanted move (so you would be able to correct it). After that pico will accept your move as if it would have been played by himself.

The computer uses the time setting you have set up for his answer moves as in normal play mode - even though no time information will be displayed. In this specific training mode time is not that relevant it is mainly used just for controlling the the computer strength& game time.

So I suggest to switch move confirmation messages on in order to see that a move has been accepted by picochess and you can go on.

I really like & enjoy playing with this mode - again thank you, Wilhelm!

Rolling Information Display in „Normal“ and (renamed) „Ponder on“ Mode



Sometimes I would like to see during a normal (longer) game what's going on during the computers thinking time.

That's why I have implemented a switch for showing a rolling display in „Normal“ and (renamed) „Ponder on“ mode (old „Brain“ mode) during the thinking time of the computer.

The information which is shown consists of (time / score+depth / hintmove) and the display switches according to the „ponder-interval“ parameter of the picochess.ini file. I have set mine to 5 seconds for now so keep in mind that you only will see all information if the computer calculates at least for 9 seconds . So you could eg. set the think time per move to 10 seconds If you always want to see all 3 information.

If the computer answer is faster tenth display will continue where the display had stoped after you have made your move...

At the moment this is only possible via picochess configuration parameters „rolling-display-normal“ and „rolling-display-ponder“.

Default ist the rolling display option switched off in „Normal“ mode and switched on in renamed „Ponder on“ mode. You can change this via the picochess.ini file.

Remark:

Sometimes -very seldom- an empty time display is shown like (—————) until the next move instead of the remaining time. Also time was sometimes reset to 0. The score and hint move display are always fine. Unfortunately I have not figured out the exact cause for this strange behavior...but on the webserver display the time always looks ok - so I assume something hardware related to clock.

In the log I could see that the clock sometimes throws an error that text or time could not be displayed and after that the clock will reset itself.

Very strange - I tried to implement a workaround (at least the wrong display times are not used for internal time calculations) but I don't know if it is 100%.

This is how a typical log looks like when this clock reset happens:

```
2019-01-19 17:26:49.028 DEBUG      pi - start_clock: (i2c) clock sending
start time to clock l:(0, 15, 10) r:(0, 15, 10)
2019-01-19 17:26:49.100 DEBUG dispatcher - _stopped_maxtimer: (i2c) tasks
stopped on 1 remaining members
2019-01-19 17:26:49.132 WARNING    pi - start_clock: SetAndRun() returned
error -3, running configure
2019-01-19 17:26:49.192 WARNING    pi - start_clock: finally failed -3
2019-01-19 17:26:49.192 DEBUG      iface - _process_message: (i2c) handle
DgtApi: DGT_CLOCK_START ended
2019-01-19 17:26:49.193 WARNING    iface - _create_task: DgtApi command
DGT_CLOCK_START failed result: False
2019-01-19 17:26:49.193 INFO       pi - _process_incoming_clock_forever:
(i2c) clock new time received l:[0, 0, 0] r:[0, 0, 0]
2019-01-19 17:26:49.194 DEBUG      iface - _process_message: (i2c) handle
DgtApi: DGT_DISPLAY_TIME started
2019-01-19 17:26:49.209 INFO       pi - _process_incoming_clock_forever:
(i2c) clock still not finished set time, sending old time
2019-01-19 17:26:49.237 DEBUG      iface - _process_message: (i2c) handle
DgtApi: DGT_DISPLAY_TIME ended
2019-01-19 17:26:49.238 DEBUG      iface - _process_message: (i2c) handle
DgtApi: DGT_DISPLAY_TEXT started
2019-01-19 17:26:49.244 DEBUG      display - run: received message from
msg_queue: MSG_DGT_CLOCK_TIME
2019-01-19 17:26:49.254 DEBUG      pi - _display_on_dgt_pi: [USB e-Board]
```

Because of that take it as a beta feature implementation - if you might have an idea what's going on or when this is happening please tell me ;-)

Continue last game after restart



Picochess will now scan and check the initial position after start automatically and if it is a different position than the starting position will read the pgn file of the last played game and restore the last position (so no need to scan the last position manually with the clock buttons if you want to continue the last game).

If during start up Picochess finds another position than the starting one it will beep and show the „read game“ message two times so that you know that the last played game is going to be restored.

After reading the pgn file pico will publish the current position to the web server and will update the internal move list.

Picochess then suggests that the player can play with the pieces of the player who's turn it is but of course you can change this by pressing the lever and play with the other pieces.

That's why the players turn is shown until game starts - before that I sometimes did not recognize who's turn it is and always moved the wrong pieces and got the „set pieces“ message ;-)

You have to make sure that the position on the board is the same as the one in the pgn file of the last game otherwise you get the usual „set pieces“ message so that you can fix this. A good idea might be to check the correct last position in the web server, because it will be shown there after reading the pgn file. The file is stored in /opt/picochess/games directory (along with the ususal pgn files) and has the specific file name „last_game.pgn“.

Unfortunately at the moment no further game information other than the played moves and correct players turn is used like the remaining times, time control settings, header data) - but if somebody wants to help with that please don't hesitate...

This feature can be switched on via picochess.ini parameter and „continue-game = True“

Renamed Playing Modes



Inspired by the picochess group thread „Suggestion to rename some play

modes" by DJ Dekker

<https://groups.google.com/forum/?nomobile=true#!topic/picochess/FXcdH9U3UY8>

And my own problems with remembering which playing mode does what I have renamed the playing modes to my personal preferences. As your milage may vary I have included a file with the old names and have added the new training mode as well which you could use if you want:

In the folder /picochess/dgt:

translate.py (new names)

translate_old.py (old names)

Just switch both file names in case you want the old names back...

wQ square	old name	new name
a5	Normal	Normal (with default rolling info option set to off)
b5	Brain	Ponder on (with default rolling info option set to on)
c5	Analyse	Move Hint
d5	Kibitz	Eval.Score
e5	Observe	Observe
f5	Ponder	Analysis (with flexible option)
g5	—	Training (new in V2.0)
h5	Remote	Remote

Remark regarding „Ponder On“ (old Brain) mode:

Actually I wanted to get rid off this mode and replace it by just an option to be set or not in the menu setting.

The logic would be: If this option is set and the engine supports pondering it will be used otherwise not (but no error message that this engine could not be used).

For this I will need more time as it is not so easy like adding an picochess.ini parameter.

So maybe this is for another developer or will just take some time...

Otherwise it is quite charming to have the normal mode with no rolling display by default and the ponder on mode with rolling display I think.

New Configuration Parameter for each enhancement of the 1.0 &

2.0 versions

You can now switch on and off all my enhancements from release 1 on with config parameters in the picochess.ini.

Maybe later some of the more important parameters will even be added to the menu (at the moment I don't know how to do it exactly...)

Extract from new picochess.ini.example_v2 relevant for version 2.0:

```
### =====
### = Enhancements from v2.0 =
### =====

## For rolling information display ponder-interval should at least set to 4 or 5
seconds!

## Rolling information display in "normal" mode (time/score/depth/hintmove) is
switched off by default
## If you want this please uncomment next line
## rolling-display-normal = True

## Rolling information display in "ponder on" mode (time/score/depth/
hintmove) is switched off by default
## If you don't want this please uncomment next line
rolling-display-ponder = True

# Flexible analysis option in Analysis (old Ponder) mode (no valid move checks,
etc.) is switched on by default
## If don't you want this please uncomment next line
#flexible-analysis = False

## Pre-move detection is switched on by default
## If don't you want this please uncomment next line
#premove = False

## Probability of spoken comments during the game is set to 100% by default.
You can set it from 0% - 100%
## Comments are only spoken if you have a specific pico voice set up with
additional audio files
## So if you don't have any voice set up with audio commentary files or you use
a standard pico voice, there
## is no need to change this parameter at all
#comment-factor = 100
```

```
## Automatically continue last game after picochess (re-)start is switched off  
by default.  
## If you want this feature please uncomment next line  
#continue-game = True
```

Bug Fixing

Various bug fixes have been done by Wilhelm and me.

A severe bug could happen in old brain (now Ponder On) mode because of my premove detection.

If you had a ponder hit and did a fast/premove picochess could freeze (although time continues to show up).

That's why I first had to disable fast/premove detection in Ponder On mode in 2.0 beta but I could find a solution for this and fixed it. So now it has been activated again (by the way you could even switch it on/off by the new config parameter „premove“).

One of the bug fixes by Wilhelm is related to the shutdown/restart procedure: pressing the outer buttons for quick restart instead of shutdown like it was originally intended. For developers or after picochess.ini changes this is quite handy as it will restart picochess much quicker than doing a complete reboot (I used this a lot for testing purpose...)

And some minor bugs have been fixed.

One more thing...

(This one is just for my own pleasure & fun while playing with my DGTPI and I don't think it is of much interest for other people. But as I already have done the whole work, I like to share it as well - so if you are only interested in serious chess play options don't read any further.

Unfortunately I can't provide any of the better professional audio files which I have bought because of copyright issues and good audio samples are really essential&necessary for this option.

But I hope that there will be some users who will create these funny audio file set and share it with us, the voice comment files we have the more interesting and funny is this option.

If you are still interested please read on... and if you even like and use it and

create a set of necessary audio files its would be nice if you would share them as well)

Voice commentary during the game

Pico, open with the French defense! Sorry, Dave, I can't do that....



Unfortunately we can't give voice commands to PicoChess at the moment but I have implemented a small framework to add more or less funny voice comments during the game.

It all started with the Fritz chess program by Chessbase. Fritz had always speech comments but a lot people did not use this feature and I was also disappointed a little bit.

At least in German language Fritz often says the same old comments and they seem totally by chance in most cases.

I had a deeper look at Fritz audios's files was impressed how many files there were which I never had heard before - there several hundred speech audio files!

I then have developed a framework so that I can add voice comments by grouping the audio files and assigning them to various events during the gameplay so that a more or less meaningful and funny comment could be spoken.

At the moment there is no direct link to the current position/evaluation as this is not trivial to implement but that might change in future releases if I find time.

On the other hand by adding lots of different comments there will be more often a perfect match than you might think (at least this is my experience especially because you often don't know if this should be a funny/ironic comment of a serious one)

So how does this work?

First we need the audio files which should could be for example

- a) comment on a move
- b) comment on a position
- c) comment on a specific piece which has just been moved
- c) just say a funny (chess related!?) phrase
- d) make fun of the human player
- e) simulate other computer voices like HAL 9000
- F) the possibilities are endless
- G) use voices or real commentators (like of GM Komarov)
- H) convert speech comments from old chess computers like Fidelities Chessster
- I) ...

I have defined the below listed events to which we can assign the comments by naming them according to the wanted assigned event.

But where do to put the audio files?

Just create a new voice and set it up like for the standard voices already existing in picochess and put the additional comment files in the same folder! Then just select this specific voice as the Pico Voice and the comments will automatically be scanned and spoken during the game play.

We can even take a copy of a standard voice for the standard voice announcements or we also create them new along with the comments (I often have two sets of same voice comments : one with standard voice move announcements (which I can better understand) and one with the standard move announcements spoken by the commentator.

For example the quality of the standard voice announcements of the converted Fritz files are not so good as the original pico voices so I took a standard voice as a base set up for the commentary voice and just added the additional voice

comment files (I just copied the standard voice folder from Christine but you might take Als voice as well - it fits perfectly for Dimitri ;-)

During the startup phase of picochess the audio files in the voice folder are scanned and counted so that we can calculate specific probabilities for the comments during the various game events (some comments are always spoken like commenting the end of game, others only with 40% probability etc.).

You can further adjust the general probability for all events by a factor with the picochess.ini config parameter com-fact = 100 by default. 0 would switch off the comments but you also can do this by just selecting a voice with no voice commentary audio files.

Naming rule for audio file names

The audio files must be in ogg format and named according to the general rule

,f_ + EVENT + sequence number, eg. „f_cmove33“ or „f_mate4“

Regarding the possible meaning /content of the audio files and their events:
Keep in mind there is no strict rule for this - Fritz often uses various generic chess phrases or even unrelated poems or other chat phrases (that's where the specific names for the events come from)

Events and the corresponding file names

1. START_NEW_GAME

- f_newgame (comment when new game is played)
- f_uwhite (user plays white comment)

2. COMPUTER_MOVE

- f_beforemove (good for general filling phrases like „Hmmmmmm...“ etc.)
- Move_comment: done automatically according to the defined and used piece comment, see below)
- f_cmove (Direct generic comment on computer move)

3. COMPUTER_MOVE_DONE

- f_chat (longer comment or general chess phrase after the computer move just played)

4. USER_MOVE_DONE

- f_beforemove (good for general filling phrases)
- f_umove (direct generic comment on user move)
- f_poem (Fritz often recites a more or less chess related short poem)

5. REVIEW_MOVE_DONE

- (Nothing yet)

6. GAME_ENDS

Comments on various game endings

- f_uwin
- f_uloose
- f_mate
- f_stalemate
- f_draw

7. TAKE_BACK

- f_takeback (funny comment when user takes back moves)

8. PLAY_MODE

- f_ublack (user plays back / computer white)
- f_uwhite (user plays white /computer black)

9. STARTUP_INFO

- f_start (Longer introduction during startup phase)
- f_name (might be used for introducing the commentator „my name is fritz 007 and I have a license to kill“ etc.)

10. SYSTEM_SHUTDOWN/REBOOT

- f_shutdown (Goodbye comment)

11. TAKEN

- f_taken (a piece is taken)

12. Move_Comment for bishop, queen, knight, rook, king, castle, pawn move

- f_PIECENAME like „f_bishop3“, „f_pawn5“ etc.

13. CHECK

- f_check (Computer plays a check move)

Here are some examples of how it sounds like...

1. Fritz on Picochess (Audio files converted and renamed from my Fritz16 program) There are hundreds of comments - I only have converted just some of them as it is really an annoying task

<https://www.dropbox.com/s/yrxjdbdanwu9uiw/Fritz%20commentary.mov?dl=0>

<https://www.dropbox.com/s/byrd31dnyzqn7qx/Fritz2%20commentary.mov?dl=0>

If you like these you should buy a Fritz 16 version (then you also have a nice chess GUI with connection to your DGT Board) and convert the audio files (but that's a lot of work and I just have done this for some of the files)

2. HAL 9000 computer (audio files from the 2001 movie)

Audio files extracted from my own move 2001 - and one can think of creating a whole science fiction personality based on famous Star Trek or Star Wars phrases... until then it is not really more than a gag for demo purpose... (I would not use this for play)

<https://www.dropbox.com/s/9o0wxqw0yladql1/HAL9000%20commentary.mov?dl=0>

By the way HAL is also playing chess against Frank in the movie and the game is based on a real game which is shown in this cool video:

<https://www.youtube.com/watch?v=YXM3wrlhcwY>

3. GM Dimitri Komarov - „Grandmaster also“ ;-)

Commentary based on Chrome extension for funny&absurd commentary done by GM Dimitri Komarov

https://www.reddit.com/r/chess/comments/3ijogi/gm_dimitri_komarov_in_action_who_should_have_been

Dimitri often does really absurd but never the less funny game comments for blitz or bullet chess. You can find a lot of videos online.

This is a first try of adding Dimitri to Picochess (because a lot of the original audio files are still missing or have not yet been renamed) - that's how it sounds:

<https://www.dropbox.com/s/dxkm1s72ou3xbq6/Dimitri.mov?dl=0>

I took the audio files from a Google Chrome browser extension for lichess which adds voice commentary to online games, see GitHub repository:

<https://github.com/vincentsimard/dmitlichess>

Besides Dimitri there are 3 more commentators in this project we could convert to Picochess...

Example of the Chrome lichess extension during blitz game (but that is a very

bad example as almost no other comments like the moves itself and „ok“ are spoken ;(- I suggest you try the extension for yourself...

<https://www.youtube.com/watch?v=ftNYIF7Wsvs&app=desktop>

If you would like to try this feature you can add the new commentary voice DMITRI from my dropbox account:

https://www.dropbox.com/sh/p8d9u5mvzyliobf/AAD39Ps29auCEbpf1K_K_Xda?dl=0

I used just some of the public available files - but keep in mind that this set is not a good one to really have lang fun with because the audio files were not initially created for this purpose (I just „misused“ them ;-) and I took not all of them which are available (it is a lot of work to rename them ;-)

Audio files are taken from the freely available Github repository <https://github.com/vincentsimard/dmitlichess> (thanks to this guy!).

By the way there are also audio files of a second commentator Maurice Ashley and if someone is willing to rename&group them for Picochess and to share with us it would be great!

The voice files have to be put into /picochess/talker/voices/en/dmitri (like a new standard voice without comments)

In voices.ini add the Dmitri voice lines or use the standard voices.ini from repository:

```
[en]
  [[al]]
    small = al
    medium = Al
    large = Al
  [[christina]]
    small = christ
    medium = Christin
    large = Christina
  [[dmitri]]
    small = dmitri
    medium = Dmitri
    large = Dmitri
```

As I have written you can replace the move announcement (the files without leading „f_“ by a standard voice to be able to understand what he is saying ;-)

but I find it funny as is is...

But to be honest: The commentary feature only makes fun if there are lots of good spoken voice comments and of course they should also be more or less funny.

So for now I only use my Fritz files on a regular base and I still have not converted and renamed all the existing files.

But I am really hoping we can create our own picochess commentary personality - so feel free to create these audio files and please share it with us and I could give you some hints (they also could be done via voice synthesizer aka Siri or samples from old chess computers like fidelity chesster etc. ;-)

Enjoy
Dirk



A small update to V2.01:

Wilhelm had the great idea to add the possibility to change the volume of the voices via menu and picochess.ini.

Especially if you often change the environment (eg training with picochess in a chess club) or if you have commentary voices with different volume levels or if your loudspeaker does not support changing the volume at all this is quite handy :

Now you can change the voice volume in the System menu of the voices (on the same level where you switch on and off the voices in 10 steps).

The setting is stored in picochess.ini so that after a reboot the last volume level is automatically restored.

Files that have been changed:

picochess.py

/dgt/menu.py

/dgt/translate.py

/dgt/util.py

The files have been already updated on GitHub.

Thanks you Wilhelm for sharing!