XGngeo documentation

The Choplair-network

Table of Contents

1 Introduction

<p style="text-align:center">Great emulator + nice GUI:
*Neo Geo emulation
on Unix made easy!*</p>

This is the official documentation for **XGngeo**, a frontend (graphical user interface) for **GnGeo**, which a command line **Neo Geo** (arcade game playing system made by SNK) emulator for the *GNU/Linux* and *FreeBSD* operating systems (and may be some other Unices) with high speed performance and many configurable options. On top of all, both are free/libre softwares released under the terms of the *GNU General Public License*.

XGngeo is written in *Python* and uses the *PyGTK* library to provide a practical and user-friendly *GTK+* interface over GnGeo! With its multiple configuration panels, designed in an intuitive way, emulator behaviour can be regulated both precisely and easily; while ROM selection is made simple thanks to a full featured list with preview image and various game information, etc.

This program development is conducted by the **Choplair-network** crew, the lastest version and informations about XGngeo are available from our website (see chapter 4 section 1.1). Although we are not directly taking part in the GnGeo development (and there is not official frontend too), we follow it closely and try to implement all its functionalities in the most correct way possible, in accordance with the author (Mathieu Peponas) who gently encourages interactions between frontends and its emulator.

This paper, which is supposed to grow up and keep up-to-date with each new XGngeo release, provides a sort of *Newbie Guide* to get started with easy Neo Geo emulation combining these two programs, and also some details about this frontend or GnGeo's features and their functioning.

2 Getting started

This is the complete procedure about how to get the dynamic combination of GnGeo and XGngeo fully functional on your system, from scratch, step by step!

2.1 Prerequisites

2.1.1 Emulator

XGngeo is a frontend for GnGeo, so this one must be installed somewhere on your computer! You can download the last version from its home page (see chapter 4 section 1). Although the emulator is available in various binary formats (deb, RPM...), keep in mind that these packages may be older than the classic source code archive.

As of XGngeo version 16 (final), the minimum version of GnGeo we ask you to use is the **0.7**. Trying to launch the frontend with an older version of the emulator will make XGngeo refusing to start untill you indicated where to find a supported version of GnGeo on your computer.

Before installing GnGeo, you have to check for the some dependencies:
- GnGeo graphical rendering is based over the SDL (*Simple Directmedia Layer*) library (version 1.2 or more), which is thus required, with **OpenGL** headers for its OpenGL blitter.
- It also needs **zlib** to extract ROM zip archives.
- Optionaly, you may install the NASM package (version 0.98 or more) in order to provide assembler optimisations.

Their home page adress, for information purpose, are given on chapter 4 section 1.

Once this is okay, you can install GnGeo, corresponding to the format it was grabed into. If, for some reasons, the installation does not work, you may ask for help from the GnGeo mailling list (chapter 4 section 2).

2.1.2 Neo Geo BIOS

To be able to launch ROMs, GnGeo will need a Neo Geo BIOS. The supported BIOS kinds are: *arcade*, *home* (aka AES) and *universal*.

The content of one or more (in that case you may select your favorite in the option) BIOS archives has to be put, as uncompressed files, into a same directory, which will be indicated later in the options.

Assuming you are not violating international copyright laws since you already own an original genuine Neo Geo hardware, BIOS archive may be obtained in various ways, like from the internet...

2.1.3 Other requirements

Especially for XGngeo, you also need the following softwares to be installed:

– The **Python** programming language: version 2.2 or more (including devel package for the install).
– The **Gimp Tool Kit** aka GTK+: version 2.6 or more.
– The **PyGTK** library: version 2.6 or more.

That's perhaps already the case. Otherwise, you'll find the links to their home page on chapter 4 section 1.2.

2.2 Getting and launching XGngeo

It's show time! Your are now ready to taste the power of XGngeo. `^^`

Here is the installation procedure for the source code archive. You'll have to process differently if you choosed to use a specific package for your distribution. In a such case, check its documentation for details, then pass directly to the next section if installation succeeded.

If you didn't obtain this documentation as a part of a XGngeo package, you have to get one! You'll find download links for the last version on the Choplair-network homepage (see chapter 4 section 1.1).

Thereafter, unpack the archive, then move to the directory which have just been created (something like '`XGngeo-XX`' where *XX* is the version number).

At this time, we *do* **assume that you have installed everything indicated above.**

Since Python code is interpreted, XGngeo doesn't require any compilation phase. You just have to install the files on your computer by entering the following command, *as root*: `python setup.py install`.

After the installation process quickly ended up, you may just, *as a normal user* now, type the `xgngeo` command to launch the frontend. If you get an error doing so, please refer to the chapter 4 section 2. Otherwise, you are entering the serious things! :)

2.3 First time important path configuration

At the beggining, XGngeo should invite you to set up some important parameters that are required to build up basic configuration files with three important options required for a working emulation. The first one, the path to your ROM driver directory (aka '`romrc.d`'), is set with a default value, like the path to the GnGeo executable. Actually, you would have just to indicate the directory where are located your Neo Geo BIOS.

Once you have finished, press SAVE. Of course, these parameters could be modified at any time thereafter, using the same configuration window.

If for some reason you want to pass out this important path check at boot time, it is possible by just giving `--nobootcheck` as a command line parameter. But this is definitively **not** recommanded!

2.4 Main window

Unless you obtained a warning dialog because some parameters looked invalid, the XGngeo main window should appear...

2.4.1 Status bar

First, you might be pleased by the welcome message at bottom of the main window. However, the message in this status bar may change and provide some information which is not so useless for the user. For example, it confirms that configuration has been saved or not, and also indicate which ROM you have selected, and it's status (stopped/running). In one word: marvellous!

2.4.2 Menu bar

Of course, you may fall in love with the great XGngeo logo, but actually your attention should go to the menu bar, on the upper part, which you'll be able to control everything with!

It is primarily composed of the FILE menu, which permits you do simple operations such as loading ROM, starting or stopping it, and exiting the program.

Next to that is, comes the CONFIGURATION menu, from where you can modify the paramaters which you entered at the XGngeo first load and also some other little options, mostly related to XGngeo's own behaviour. But the most interesting thing here is the GLOBAL EMULATION sub-menu which allows you to set the default GnGeo emulation configuration (graphic, audio, keys, etc.) for every game (but it is also possible to set specific game configuration). These emulation configuration panels are detailed in the section 2 of the next chapter.

At last, on the very right-hand, from the INFO menu you can look at the credits or read (again and again) the holy GNU General Public Licence which XGngeo is released under!

2.5 Playing a game

Okay, you can set emulation options as you want, then it's time to launch a game! There are 3 different ways to load a ROM for being executed...

2.5.1 Through the ROM list window

Actually, you would generaly use the ROM list window which brings you an overall view of all the available ROMs in the various place you mentioned (using the special window that appear when clicking on the ROM DIRECTORY... buttons). You may click on any entry on the ROM list to see game preview and / or information (if those add-ons are enabled, see chapter 3 section 2.1), set a specific emulation configuration, and of course, choose it for loading.

2.5.2 Through the file chooser

The file chooser, as its name lets understand, is a classic GTK file seclection window that allow you to load a ROM manually, from any place in your file system. This method is useful if the ROM you want to load is located in another place than in directories specified in the ROM list window.

If preview images were enabled, a ROM preview would be displayed, in addition to its name, each time you would click on a file that appears to be a valid ROM archive, detected by GnGeo.

2.5.3 Through the recent ROM history menu

The recent ROM history is no more than a simple menu providing quick loading function for the last ROMs you have previously chosen.

Note that you can remove any ROM from that list by right clicking over its name, and that inaccessible archives are flagged out by a small warning icon.

Once you have selected a ROM, it should be launched by GnGeo and playable only a few seconds later! *The future is now*, enjoy the Neo Geo! :-D
While playing, you still can perform some special actions in the emulator, like toggling beetween fullscreen/windowed mode, saving/loading state, etc. (see chapter 3 section 3). By the way, you can also disable the ROM auto-execution feature (if you prefer to do so manually) in the OTHER THINGS configuration window.

3 Details

3.1 Used configuration files

3.1.1 Main configuration files

XGngeo's configuration interface actually manages options of 2 main configuration files at the same time. Both using the same syntax, which is just lines of a variable name followed, after a space, by its corresponding value. :p

3.1.1.1 'gngeorc'

This is the GnGeo's global configuration file, situated in the '`~/gngeo/`' directory. It lets you customize many params of the emulator which will be the default for any ROM. Some of these param are highly important: path to the '`romrc`' file, *Main ROM and BIOS dictory*, etc.

3.1.1.2 'xgngeo.conf'

This is the XGngeo's own configuration file, situated in the XGngeo's user directory ('`~/.xgngeo`'). This second file may be considered as less important since there are only options related to XGngeo (size of history, path to preview images' directory, etc.). That's why most of these options are modifiable in the OTHER THINGS section.

3.1.2 ROM-specific configuration files

Since its version 0.6, GnGeo is able to perform emulation in a specific way for each ROM.

That's quite simple: before loading the ROM, the emulator looks for a file, in the '`~/gngeo/`' directory, which is named in the form of '`mame_name.cf`' (where *mame˙name* is the Mame name of the game). If it does exist, the emulation parameters from are taken from, without taking care of the ones set in the '`gngeorc`', which is used otherwise. The syntax for these files is still the same.

ROM-specific configuration files can be easily handled through XGngeo, as detailed in the next section...

3.1.3 ROM drivers

ROM drivers, since GnGeo version 0.7, are defined using numerous per-ROM ASCII files grouped into a common ROM driver dictory (aka '`romrc.d`') and named like each ROM's mamename with the '`.rc`' extension (ie.: '`kof97.rc`').
This new default way to handle ROM drivers (compared to the huge all-in-one driver file previously used) has been awaited for a while and will facilitate a sort of *ROM drivers editing interface* which should be implemented in future XGngeo version... :-)

3.1.4 History file

This simple ASCII file ('`~/.xgngeo/history`') contains, in a descending order, lines of the full name (between double quotes) and the absolute path of recently loaded Roms, in order to be displayed in the HISTORY menu of XGngeo. Placed in the XGngeo user directory, this file is thus created and updated by the frontend and not the emulator.

3.2 Particular windows

3.2.1 ROM list

There are also optional features (add-ons) which bring you a more comfortable game selection in the ROM list window. Here they are...

3.2.1.1 Preview images

XGngeo is able to display a preview image of any of the games selected in the list. It is fully compatible with the preview images used by other frontends such as GGF (*GnGeo Frontend*), which implemented it formerly.

Thus, a preview image pack archive can be easily obtained from the GnGeo, GGF or Choplair-network home page. You will need to unpack them somewhere, then to indicate the directory where they are located in the OTHER THING CONFIGURATION window, in order to get it working instantly!

3.2.1.2 ROM information

GGF's developpers created an XML file containing informations for each ROM (description, manufacturer, year, etc.) about loads of Roms in order to be displayed by frontends. This is the perfect addition to preview images and it's fully supported by XGngeo!
Moreover, because of the small size of this file, it is already included in our packages and this add-on is activated by default.

Note: the game reviews are not ours, but have been performed by the *Ultimate Neo Gaming Ressource* (UNGR). You can read them online and find other interesting things on their homepage (see chapter 4 section 1.3).

3.2.2 Emulation configuration panels

The options which can be set in global or the ROM-specific emulation configuration window are exactly the same. As XGngeo provides graphical management for a lot of GnGeo parameters, they have been divided in serveral panels according to which emulation domain they are dealing with, for the sake of clarity.

3.2.2.1 Display panel

You can activate many options here: fullscreen mode, frame skipping (real-time speed), interpolation (smoother animation), etc. Moreover, you may select your prefered blitter (software, OpenGL, YUV) and choose to apply an effect upon it (scanline, HQX, etc.).

Please note that effects are currently not supported by the YUV blitter of GnGeo. Thus, the effect list becomes disabled in XGngeo when you select this blitter.

3.2.2.2 Sound / Joystick panel

There are few options for sound and joystick, which is why they are regrouped in one panel. You may set support for them and, if enabled, specify some options (sound sample rate, joystick devices).

3.2.2.3 Controls panel

In the Neo Geo, we can observe 4 kinds of key: the *directional arrows*, the *fire buttons* (A, B, C & D), the *Start/Coin*, and the *hot keys*.

XGngeo has a keyboard configurator which permits you to easily customize all the 2 player controls. To modify a key, just click on the corresponding button then push your new key.

Warning: since GnGeo (SDL's) and XGngeo (GTK's) keymaps are different, some special keys might be not recognized by XGngeo. If it occurs, please tell us (refer to the chapter 2 section 2)!

Please give some attention to the four **hot keys**: they are optional and allow you to actually binds one key to a combination of multiple fire buttons (ie. to perform special game actions in a easier way). Those combinations are freely configurable, independently for the 2 players.

3.2.2.4 System panel

Here you can set some Neo Geo core preference. You can change the region (Japan, USA, Europe), which often modifies the game language, and also the Neo Geo BIOS type: *arcade* (classic mode with credit given by coins), *console* (usually more complete and permiting configuration through an option menu) or *universe* (a mix of both!).

3.2.3 Special actions in GnGeo

Using function keys, you can perform some special actions while playing a ROM in GnGeo. Here comes the list of what you can do by pressing these keys:

— ⟨Escape⟩: exit game.

- ⟨F1⟩: reset game.
- ⟨F2⟩: take a screeshot (BMP file saved in your home directory).
- ⟨F3⟩: enter Neo Geo Bios configuration interface.
- ⟨F4⟩: enable/disable display of pressed key value.
- ⟨F5⟩: enable/disable display of FPS value.
- ⟨F6⟩: enable/disable slow motion.
- ⟨F8⟩: save current game state (to a slot you thereafter specify, from the one hundred possible!).
- ⟨F9⟩: load a saved game state (from a slot you thereafter specify).
- ⟨F10⟩: enable/disable auto frame skip.
- ⟨F11⟩: enable/disable sleep mode when GnGeo is idle.
- ⟨F12⟩: enable/disable fullscreen mode.

3.3 Internationalization

XGngeo is multilingual! Translations are currently available in the following languages:
- English (default)
- French
- German*
- Polish*
- Portuguese of Brazil*
- Spanish

Note: the translations of a language followed by an asterisk, are, unfortunately, not up-to-date with the current release original strings. Don't hesitate to update them! You can even make new translation, just look below...

3.3.1 Making new translation

If you want to perform a new translation of XGngeo into your language, please follow the last instructions that you'll find mentionned on the Choplair-network's website (see address below).

4 Web links and ML

4.1 Home pages

4.1.1 The great duo

- GnGeo homepage: http://gngeo.berlios.de/.
- Choplair-network home page (for XGngeo): http://www.choplair.org/.

4.1.2 Their dependencies

- SDL: http://www.libsdsl.org/.
- Zlib: http://www.zlib.org/.
- NASM (optional): http://nasm.2y.net/.
- Python: http://www.python.org/.
- GTK+: http://www.gtk.org/.
- PyGTK: http://www.pygtk.org/.

4.1.3 Other

- GnGeo Brazil (Brazilian website about GnGeo): http://www.gngeo.hpg.ig.com.br/.
- GGF (previous frontend) homepage: http://gngeofrontend.sourceforge.net/.

4.2 Mailling list

If you get any problem using GnGeo, directly or through a frontend such as XGngeo, the best way is certainly to ask for help on the official GnGeo mailling list, where you should get quick and effective answers from its little community, including XGngeo developers. Here is how to:

- **Suscribe:** send a blank email, with the word *subscribe* as a subject, to gngeo-request [AT] ml.free.fr. Note that prior subscribtion is mandatory to post any new message.
- **Post:** send your messages to gngeo [AT] ml.free.fr.

By the way, list archives are available on the web at the following address: http://www.mail-archive.com/gngeo@ml.free.fr/. You would have better to check out that your problem hasn't been already discussed and solved before posting a new help message.

5 Credits

XGngeo forms a part of the projects conducted by the Choplair-network, an independant libre software development crew. Here comes the people involved in the making of this program since the beginning:

- **Choplair** (chopinou [AT] choplair.org): development director and main programmer, French translator.
- **Pachilor** (pachilor [AT] choplair.org): assistant programmer.
- **Achraf Cherti** (achrafcherti [AT] gmail dot com): various patches and code contributions, Ubuntu packager.
- **hori**[1] (x_psyence [AT] hotmail.com): past English spelling corrector.
- **Peter Kainrad**: old German translator.
- **Shilon** (sheng.long.gradilla [AT] gmail.com): Spanish translator.
- **Matma**: old Polish translator.
- **Matheus Villela**: old Brazilian translator.
- **Paulo Eduardo Chiva** (paulo.chiva [AT] ig.com.br): previous Brazilian translator.
- **Ms. Marie-Claire** (marie-claire [AT] choplair.org): documentation editor.

Special thanks to the GnGeo author, **Mathieu Peponas**, for writing such a great emulator!

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[1] The wonderful, the magnificent and most excellent blooming rose!