

Geeonx

Introduction and Installation

03.05.2017 - First Version 16.07.2014

I. Introduction:

Geeonx in three sentences:

Geeonx is a window system.

Geeonx is a Graphical User Interface (GUI).

Geeonx is a shared library.

What do I need to use Geeonx ?

A x86 computer with a LINUX Operating System.

The shared libraries SDL, SDL_ttf, SDL_image and Freetype, which all can be used free of charge.

What are the benefits of Geeonx ?

Geeonx runs on the basis of SDL (Simple Direct Media Layer). That enables Geeonx to run within or without X-Windows (if your system supports the access to framebuffer). Geeonx can easily be ported to every system that supports SDL (for example MS Windows, MacOS and lots more ...).

Geeonx is the ideal GUI for Linux to build lean systems, which are fast, stable and small. The Geeonx shared library lib_geeonx.so has got a size of ~100 KB.

With the tool Geeonx Creator you are able to design all GUI-elements like

windows, buttons and icons. Geeonx stores the data of each and every GUI element in a corresponding Geeonx object.

Geeonx Creator will store the GUI data into a *.gee and *.gew file and the Geeonx shared library take over all drawings of GUI elements (inclusive window content) and do all window and button management. Hence it is very easy to program applications with windows, buttons and icons.

For example to alter the content of a window you just change the text_string within the structure of the Geeonx_object. With the call of the function gee_draw_all_objects() the whole interface of the application will be updated.

For those who want to learn to code with Geeonx, look at Geeonx_Create.pdf.

II. License and Copyright:

This little introduction accompanies Geeonx (lib_geeonx.so) V 0.99 (build 215). It is not fully tested and hence still a beta version.

The Geeonx library lib_geeonx.so, the programs geeonx_demo, geeonx_creator and all gfx files are copyright 2008-2017 of Rasmus J. N. Keller. The name „Geeonx“ (2008) is created by Rasmus J. N. Keller.

The use of lib_geeonx.so and the programs geeonx_demo and geeonx_creator is subject to the corresponding license agreements: EULA_Lib.pdf, EULA_Geeonx_Demo.pdf, EULA_Geeonx_Creator.pdf.

The source code of geeonx_demo can be used in your own commercial or non-profit applications.

The font DroidSans.ttf is created by Steve Matteson. It is subject to the Apache License, Version 2.0.

III. Install Geeonx on your system:

1. Before all

We want to use the directories /usr/local/lib, /usr/local/include, /usr/local/bin and usr/share/applications. These directories are normally owned by root. Hence, it is necessary to change the ownership to you.

Open terminal, type sudo -i and enter passphrase.

```
chown <yourname> /usr/local/lib
```

```
chmod u+rwx /usr/local/lib
```

```
chown <yourname> /usr/local/include
```

```
chmod u+rwx /usr/local/include
```

```
chown <yourname> /usr/local/bin
```

```
chmod u+rwx /usr/local/bin
```

```
chown <yourname> /usr/share/applications.
```

```
chmod u+rwx /usr/local/share/applications
```

2. In general

First check if the shared libraries

- SDL (V1.2.15) → <http://libsdl.org/download-1.2.php> ,

- SDL_ttf (V 2.0.11) → https://www.libsdl.org/projects/SDL_ttf/release-1.2.html ,

- SDL_image (V 1.2.12) → https://www.libsdl.org/projects/SDL_image/release-1.2.html and

- Freetype -> <http://www.freetype.org/download.html>

are installed. If not, you must first install them on your computer. That the shared library glibc is preinstalled, is taken for granted.

You can download the SDL sources and compile and install them with

```
./configure
```

```
make
```

```
make install.
```

If you want to compile for 64 bit x86 systems it is needed to replace x11_sym.h in SDL-1.2.15/src/video/x11/ by the one delivered with the Geeonx package.

Install the Geeonx library itself by copying it to your library directory - for example usr/local/lib/. Copy geeonx_public.h to usr/local/include and the GeeonxCreator.dektop to usr/share/applications. Run **ldconfig** to tell your system that one or more new libraries are installed.

Keep in mind that the *.gee, *.gee, font and gfx files must be in the same directory as the Geeonx applications.

2. Ubuntu

In regard to **Ubuntu** it is needed that a lot of missing stuff (incl. Freetype library) will be installed. You can do it manually:

Type

```
sudo apt-get install build-essential xorg-dev libudev-dev libts-dev libgl1-  
mesa-dev libglu1-mesa-dev libasound2-dev libpulse-dev libopenal-dev  
libogg-dev libvorbis-dev libaudiofile-dev libpng12-dev libfreetype6-dev  
libusb-dev libdbus-1-dev zlib1g-dev libdirectfb-dev libx11-dev libxext-dev .
```

Use copy and paste.

Don't forget ldconfig.

Or you can use the **geeonx install script** for **Ubuntu**.

(a) Decompress geeonx32.tar.gz respectively geeonx64.tar.gz in the folder usr/local/bin.

(b) You should receive /usr/local/bin/geeonx.

(c) Get necessary rights regarding the folder /usr/local/bin by `chmod u+rwx usr/local/bin -R`.

(d) Move with `cd` into /usr/local/bin/geeonx.

(e) Type `./install_geeonx.sh`.

(f) Follow the instructions.

(g) After the script has finished its work, you can run `geeonx_demo` by `./geeonx_demo` or `geeonx_creator` by `./geeonx_creator` or by clicking on the Geeonx logo in your launch menu.

IV. Litte introduction into the Geeonx interface:

Geeonx offers pulldown-menus and buttons as you already know from other interfaces. The Geeonx windows differ a little from other interfaces. All buttons to operate the window are placed above the top of the window. Furthermore the selected window is marked with a little colored box (selected_box) and a colored outline around the window.

These are the window operators:



The **Close-Operator** will close the window.



The **Move-Operator** enables you to move the window. With a click on this operator you enable window-movement. With next click on the screen you will chose the new screen position of the window.



The **Arrows** enables you to change the size of the window or to move the content of the window, depending on size or scroll modus is activated.



With the **Switch-operator** you can switch between size and scroll_modus. Once you have clicked on this operator, the color of the window selected_box and the outline changes.

V. Thanx:

Special thanx to

Sam Latinga for creating the SDL and SDL_ttf library,

Sam Latinga and Mattias Engdegård for SDL_image,

David Turner, Robert Wilhelm, and Werner Lemberg for FreeType.

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