

GtkpfsGUI

Manual

Version 0.4

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Building GtkepfsGUI

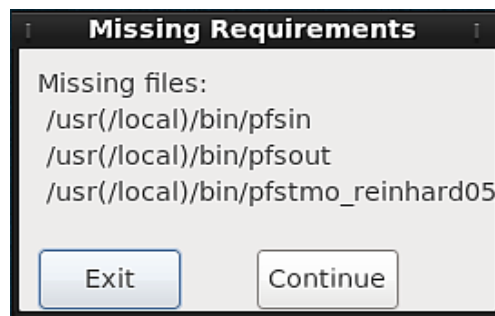
Dependencies:

- g++ >= 2.18
- pfsutils (including pfsutils and pfsutils)
- OpenEXR

Download the current version of GtkepfsGUI and decompress it to a directory of your choice. Open a terminal, change to this directory and type 'make'. If no errors occurred, you can either install GtkepfsGUI by typing 'make install' (as root) or start GtkepfsGUI by typing './gtkepfsgui'.

The Graphical User Interface

Once you started GtkepfsGUI, a window similar to this may pop up:



This means that some files are missing which are required to run GtkepfsGUI properly. Please install them before clicking 'Continue'.

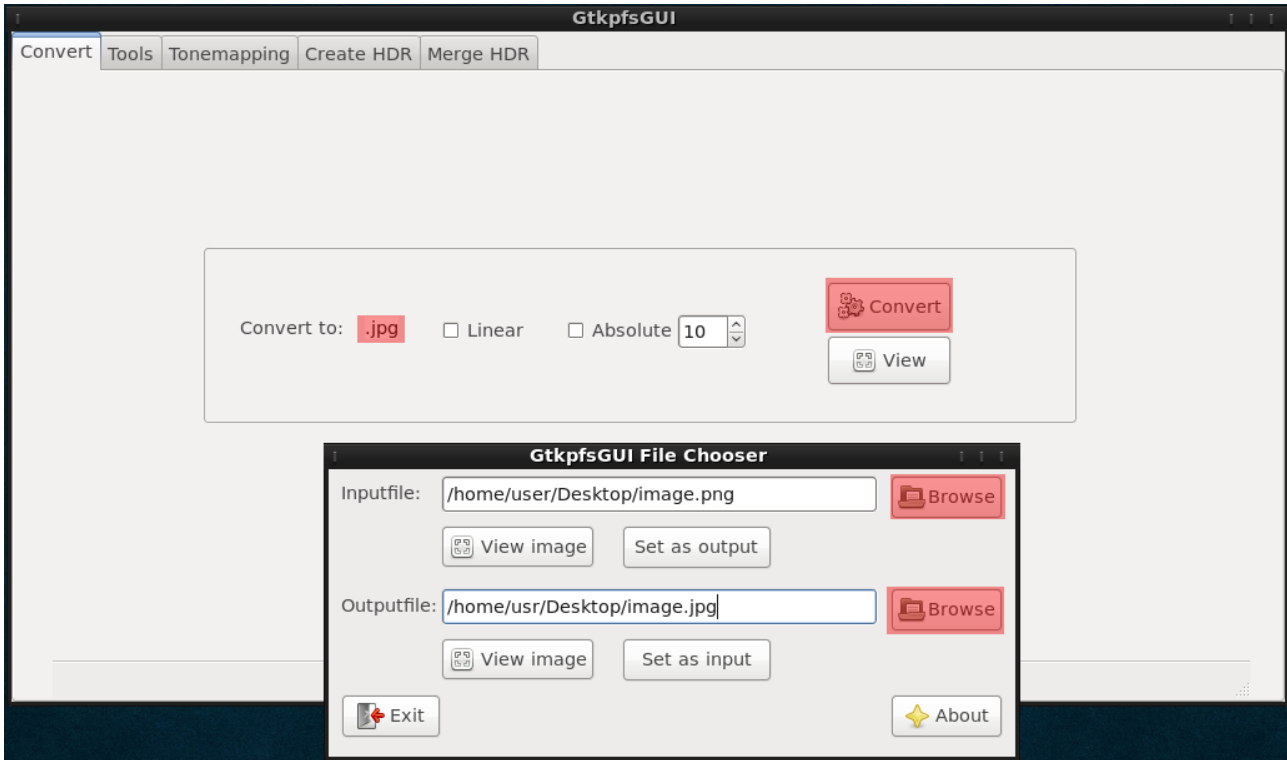
Let's have a look at the main window which consists of two windows: the File Chooser window and the GtkepfsGUI window. In the first one you specify the input and the output files. In the second one you are manipulating images.

The GtkepfsGUI window is structured in five tabs (or notebook pages):

- Convert: convert images into several formats
- Tools: manipulating images (resizing, gamma correction etc.)
- Tonemapping: 'convert' a HDR image to a LDR image (JPG, PNG, BMP ...)
- Create HDR: create a HDR image from exposures
- Merge HDR: merge several HDRs into a movie

Converting images

Let's start off with a simple example on how to convert a PNG image to a JPEG:



First of all you have to define an input image. You can do this by typing its path in the 'Inputfile' entry or by clicking on the 'Browse' button. The window that now pops up is the standard Gtk File Chooser which has a convenient image preview integrated. Choose the image you want to convert and click 'Open'.

After that you have to define an output image. By changing the file suffix from '.png' to '.jpg', you may notice that the text view on the GtkpfsGUI 'Convert' tab changes.

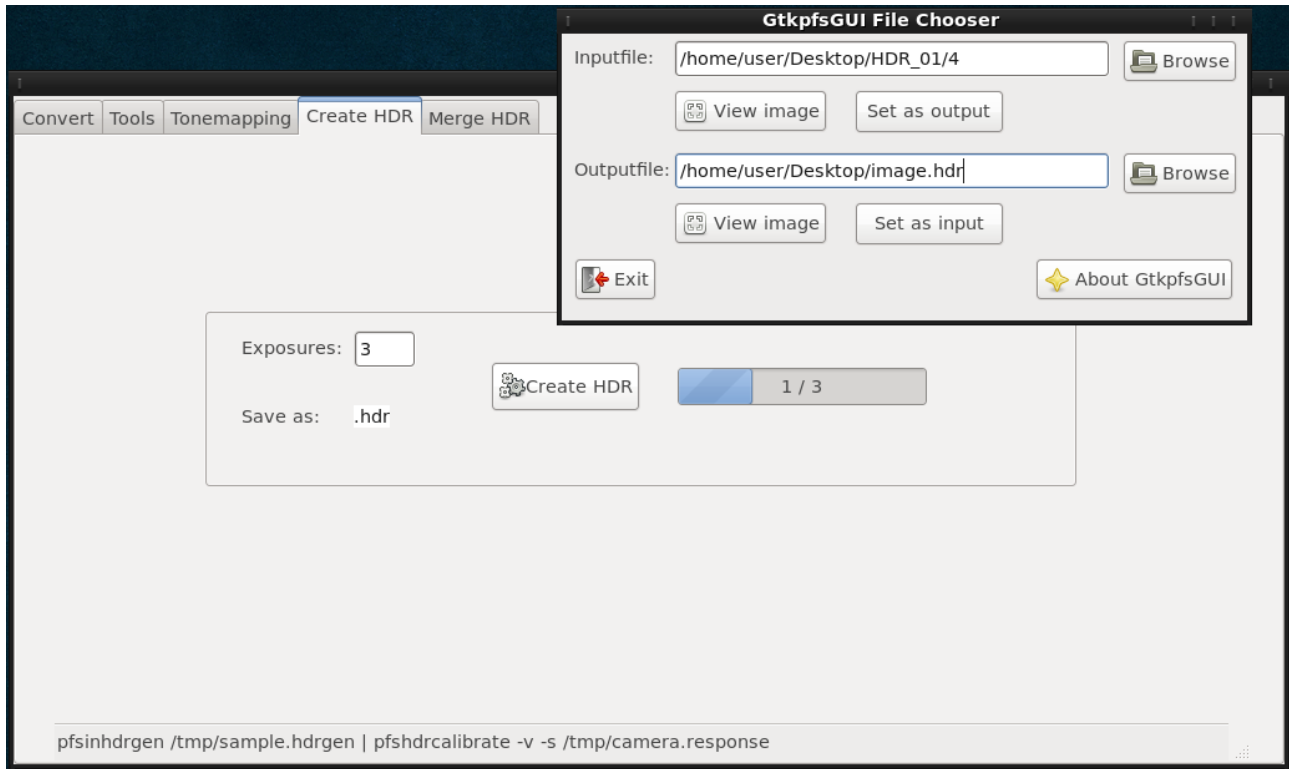
Now press the 'Convert' button and GtkpfsGUI will convert your image and save it under the path you specified. Leave the checkboxes 'Linear' and 'Absolute' unchecked if you just want to convert the image. 'Linear' makes your picture darker and 'Absolute' brightens it depending on the value you have entered.

Please note that GtkpfsGUI will overwrite the output files if they already exist without asking.

Converting images works with both HDR and LDR images. You cannot convert a HDR image to a LDR image. This is done by tonemapping (chapter 6).

Creating HDRs

This chapter explains how to create a HDR image from several exposures. First, change to the 'Create HDR' tab.



When defining an input file by clicking 'Browse', you have to choose a directory that contains the exposures. The exposures must be JPEG or PNG images, otherwise GtksfsGUI will not be able to create a HDR. Once you have chosen a directory, the entry 'Exposures' changes to the number of exposures found, in this case, three.

After that define an output file. Note that the image format must be either HDR or EXR. HDR images can later be tonemapped, EXR images cannot be tonemapped.

Now press the 'Create HDR' button and wait until a 'Finished' appears in the progress bar. You can view the picture by clicking 'View image' on the File Chooser window.

Using Several Tools

The following tools are implemented in GtksfsGUI:

- Gamma (pfsgamma): Apply gamma correction to image
- Resize (pfssize): Resize an image using either the 'Linear', 'Box' or 'Mitchell' filter
- Rotate (pfsrotate): Rotate an image clockwise or counter-clockwise
- Flip (pfsflip): Flip an image horizontally or vertically
- Crop (pfscrop): Cut n pixels from the left, right, top or bottom side of the image

- Extract (pfsextractchannels): Extract X, Y or Z channel
- Absolute (pfsabsolute): Darken (< 1.0) or brighten (> 1.0) an image

The tools can deal with both HDR and LDR (JPEG, PNG, etc.) images. The handling is quite easy: choose an input and an output file, adjust the values and click on the button.

Often HDR images are too bright. You can correct this by using 'Absolute' with a value of ~ 0.8 .

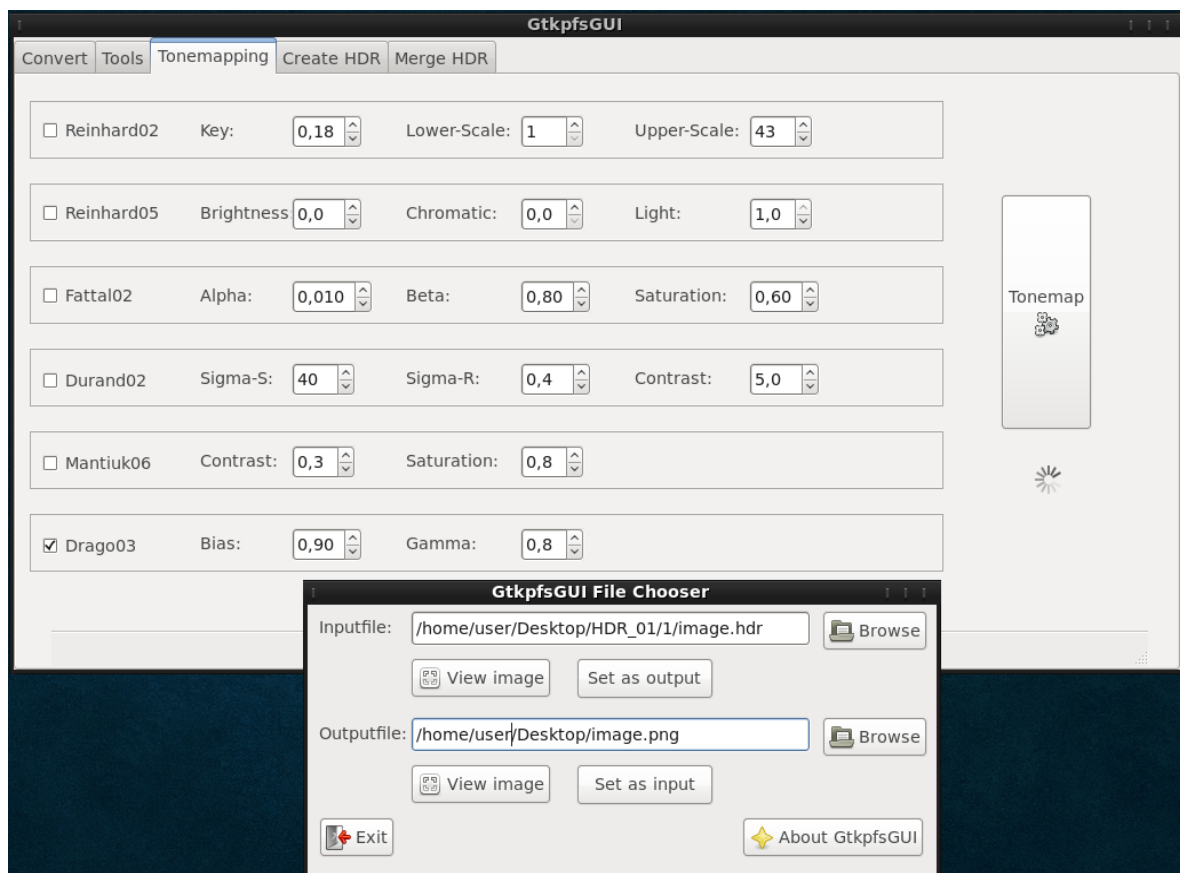
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Tonemapping

After having created a HDR image you may want to tonemap it in order to view it with your favourite picture viewer or manipulate it with another image manipulation program. Change to the 'Tonemapping' tab, specify an input and an output image (where the input image must be in .hdr format and the output image an LDR like PNG, JPEG or BMP).

Decide for one of the six tonemappers. Every tonemapper produces a different output. While Reinhard02, Reinhard05 and Drago03 produce high realistic images, Mantiuk06 and Fattal02 produce very artistic outputs. You have to try out which of them fits your imagination of a good picture most.

Once you have decided for a tonemapper, adjust the values (or not, they are set to default) and click the 'Tonemap' button. Some tonemappers like Reinhard02 are very fast, others like Fattal02 are not.



Merge HDRs

The 'Merge HDR' tab is new in Version 0.4. In order to use it, you need a couple of HDRs, e.g. a rendered animation saved as 'Radiance HDR'. It doesn't matter how the frames are called, they just have to be placed in the same directory.

Change to the 'Merge HDR' tab and specify an input directory by clicking 'Browse' on the File Chooser window. The 'Images' entry should now contain the number of HDRs in the directory. After that, choose a tonemapper. The values will be copied from the 'Tonemapping' tab, so adjust them if you want. Furthermore, you can add some special ffmpeg arguments because GtksfsGUI will merge the tonemapped images by using ffmpeg. By default, the movie is scaled to 1920x1080 pixels and the video bitrate will be 9800KB.

Choose an output codec and an output file. Note that the output file suffix must be '.avi' if you have chosen the AVI codec, '.mpg' if you have chosen the MPG codec and '.mp4' if you decided for the MP4 codec. Then adjust the threads GtksfsGUI should use to tonemap the images and click 'Start'. Depending on the tonemapper and the number of images the process may take several minutes or hours. You can pause the tonemapping process by clicking 'Pause' and resume it later by clicking 'Resume'. 'Abort' cancels the current process.

GtksfsGUI is a multithreaded application. That means you can start multiple processes at the same time. For example, while merging HDRs you can tonemap or convert some images without interrupting the merging process.

Written by Nordraak, August / September 2010