darktable - Bug #8828

black squares in exported image

07/19/2012 07:37 AM - neimo källi

Status:	Fixed		**Start date:**	07/19/2012
Priority:	Medium		**Due date:**	
Assignee:			**% Done:**	100%
Category:	Darkroom		**Estimated time:**	0.00 hour
Target version:	Candidate for next major release			
Affected Version:	1.0.4		**bitness:**	64-bit
System:			**hardware architecture:**	amd64/x86

Description

Exported image has huge black squares on it, covering up to a third of the entire image area.

Running in ubuntu precise, darktable installed from ubuntu software center. For some reason I couldn't attach the problem file, will try to host elsewhere.

Associated revisions

Revision fc8998b9 - 07/24/2012 05:24 PM - Ulrich Pegelow

fix for bug #8828 (black squares in exported images)

Issue was caused by a division by zero in module "input color profile"
subsequently leading to problems of module "equalizer" with the resulting NaN's

History

#1 - 07/19/2012 07:47 AM - Simon Spannagel

- % Done changed from 0 to 20

- Status changed from New to Incomplete

- Priority changed from High to Medium

Dear Neimo,

beside the exported file we would need some more information and data:

- which camera is the image from? (Maybe host the raw file somewhere)
- which modules did you enable? (Attach xmp file)
- Do you use OpenCL? (Attach your ~/.config/darktable/darktablerc)
- Did this happen with other images from the same camera?

Besdie that: are you really using darktable 0.9.3 in precise? That version is *really* outdated and is not supported anymore. I strongly recommend updating using our PPA. For more information see here: http://www.darktable.org/install#ubuntu

Simon

#2 - 07/19/2012 08:18 AM - neimo källi

Simon Spannagel wrote:

> Dear Neimo,
>
> beside the exported file we would need some more information and data:
>
> - which camera is the image from? (Maybe host the raw file somewhere)
> - which modules did you enable? (Attach xmp file)
> - Do you use OpenCL? (Attach your ~/.config/darktable/darktablerc)
> - Did this happen with other images from the same camera?
>
> Besdie that: are you really using darktable 0.9.3 in precise? That version is *really* outdated and is not supported anymore. I strongly recommend updating using our PPA. For more information see here: http://www.darktable.org/install#ubuntu
>
> Simon

I will upload the files when I get back home later today. I have seen this in only one image, I just started using the program and have exported maybe 3 image files total. All images from sony dslr A200.

I installed directly from software center/default repositories, 0.9.3 is what it says. I'll try a newer version to see if the problem goes away.

#3 - 07/19/2012 08:20 AM - Simon Spannagel

As said, please update to 1.0.4 by using our PPA (If you don't know what this is, google it...) as 0.9.3 is not longer maintained.
In 1.0.4 so many things got updated and changed so it's quite likely that your problem is already fixed.

#4 - 07/19/2012 09:11 AM - Simon Spannagel

- % Done changed from 20 to 0

- Status changed from Incomplete to Closed: invalid

Feel free to re-open if you still face problems with the latest stable version.

#5 - 07/19/2012 02:16 PM - neimo källi

Unfortunately the problem persists in 1.0.4. I didn't touch any settings after installing, just opened that one file and then exported. I will try to get the files online shortly.

#6 - 07/19/2012 02:17 PM - neimo källi

- File DSC05700.ARW.xmp added

exported http://ubuntuone.com/5Y8yskMPBgsUyBpOmxyV5I

raw file http://ubuntuone.com/4CnhgVvLiA8VtwX4iVeDjh

anything else you'd need to see?

#7 - 07/19/2012 02:32 PM - neimo källi

and I can't figure out how to reopen this. I guess I wouldn't have the privileges needed.

#8 - 07/19/2012 02:52 PM - Simon Spannagel

- Status changed from Closed: invalid to Triaged

- Affected Version changed from 0.9.3 to 1.0.4

- % Done changed from 0 to 20

reopened and confirmed, same for me with your XMP and current git master (as of e68afd).

Set to "triaged".

History stack contains:

- equalizer
- lowlight vision
- white balance
- sharpen

Camera: SONY DSLR-A200

Reproducible without OpenCL.

#9 - 07/22/2012 10:05 AM - Ulrich Pegelow

The artifact can be clearly traced back to equalizer. Even with default settings black squares are produced on export. No difference between cpu and gpu codepath, so I assume it's an issue with the underlying algorithm.

As I don't have any idea why this happens for certain images I put hanatos in copy.

#10 - 07/22/2012 11:57 AM - Ulrich Pegelow

Some additional observations and a speculation.

When I activate blending (blend mode normal, 100% opacity) on a module that **precedes** equalizer (e.g. vibrance), the artifacts are gone. Blending must be activated for this, otherwise artifacts stay. This blend setting is more or less a noop. However, it will in any case clamp the module's output.

My speculation is that the artifacts might be caused by invalid pixel values, maybe negative L values.

#11 - 07/22/2012 12:20 PM - Ulrich Pegelow

Some further experiments: I tested some clamping code in equalizer applied prior to eaw_decomposition. Interestingly it's not the L channel that causes problems but the values in a and b. Clamping them to -128..128 prevents the black square artifact.

@hanatos: does this make sense to you? should we clamp equalizer input by default?

#12 - 07/23/2012 08:44 PM - Ulrich Pegelow

OK, getting closer.

Seems that the cause of the problem are non-finite floats that module "input profile" is generating (run DT compiled in debug mode). Module equalizer reacts very heavily on them and produces black squares. Clamping prior to equalizer would be a solution but IMHO it would be preferable to prevent infinite floats at their origin.

Putting Pascal in copy, hoping that he has an idea why this happens here.

#13 - 07/24/2012 05:30 PM - Ulrich Pegelow

- % Done changed from 20 to 100

- Target version set to Candidate for next major release

- Status changed from Triaged to Fixed

So, finally there is a fix in git master. Root cause of the issue is a division by zero under certain circumstances in module "input color profile". The resulting NaN's finally cause module "equalizer" to make all those funny things.

Files

DSC05700.ARW.xmp	5.77 KB	07/19/2012	neimo källi