# Linux Photography Applications

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# About

- I'm a very amateur photographer
  - But I have neat toys
  - All processing with open source software on Linux
- I won't cover things I don't know
  - Colour management
  - Raster editing (GIMP)
  - Proprietary tools, Windows, etc.

# DSLRs

- RAW files require post-processing
    - TIF with undocumented sections
    - 12-14 bit colours
    - Not RGB

# General Tips

- **Never** edit the originals

- "New Folder" is not a useful filing strategy

- Disable redshift and other desktop filters

- Disk is cheap, algorithms improve, defer deleting 'bad' images.

# Ingest

- Quickly view incoming images

- Import images onto a filesystem

- Tag images with specific metadata

# geeqie

Fast file previewer with simple RAW support.

(Current stable, v1.2.2, has broken EXIF preview)

# fdupes

You *will* end up with duplicate files.

`fdupes -rsn1 dir1 dir2 …`

# Extraction

# dcraw

- Command line RAW extractor

- Almost all RAW readers are based (indirectly) off this.

- Kinda slow. But it works.

`dcraw -e <src>` extract embedded thumbnail

`dcraw <src>` extract full image

# darktable

- Library management: tagging, storage, viewing

- Processing:

  - whole image filters

  - edits as XMP files

# Also

- rawtherapee

# Multi-image Processing

- Combine multiple images for
    - Panoramas
    - Better lighting
    - Increased DOF

# Image registration

- Performs **extraodinarily** badly on poor data

- Often better results if you disregard patents

# Hugin

- Combine a sequence of overlapping images into one big image.

- Some algorithms are resolution dependant

# LuminanceHDR

- Compensate for vast differences in lighting

- Exposure bracketing requires EXIF data or similar

# Tip

Use it like perl: sometimes it's necessary, but if the user knows about it then you've screwed up.

# Bad



Regents Street. Nick Kenrick.

# Good



Hobbiton in the Morning. Trey Ratcliff.

# Focus stacking

- DOF in close up photography can be **very** small

- Combine multiple images with overlapping DOF

    - Select areas of high contrast

# Software

Theoretically Hugin can be used directly. I can't make it work.

Command line is fairly straight forward

```
OMP_NUM_THREADS=8 align_image_stack && enfuse
```

# Registration

```
align_image_stack --gpu -C -m -a output
```

# Blending

```
enfuse --exposure-weight=0 --saturation-weight=0 --
contrast-weight=1 --hard-mask --gray-projector=l-star
    --contrast-edge-scale=0.5 --output=output.tif
                    output0*.tif
```

# Thanks

Links to the software will be posted to the mailing list.

Everything should be in your distro's repository.