Digital Photography in the GNOME environment

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Digital photography in GNOME

- Acquiring
- Managing
- GNOME Integration

Acquiring

- Digital Cameras
- Scanners

Getting the images from digital cameras

- USB Mass Storage devices

  Mount as filesystem. Just copy

  ```
  # mount -t vfat /dev/sda1 /camera
  ```

  ```
  $ cp -R /camera/dcim/*/*.jpg ~/Photos/
  ```

- Other devices

  Need a driver: gphoto2

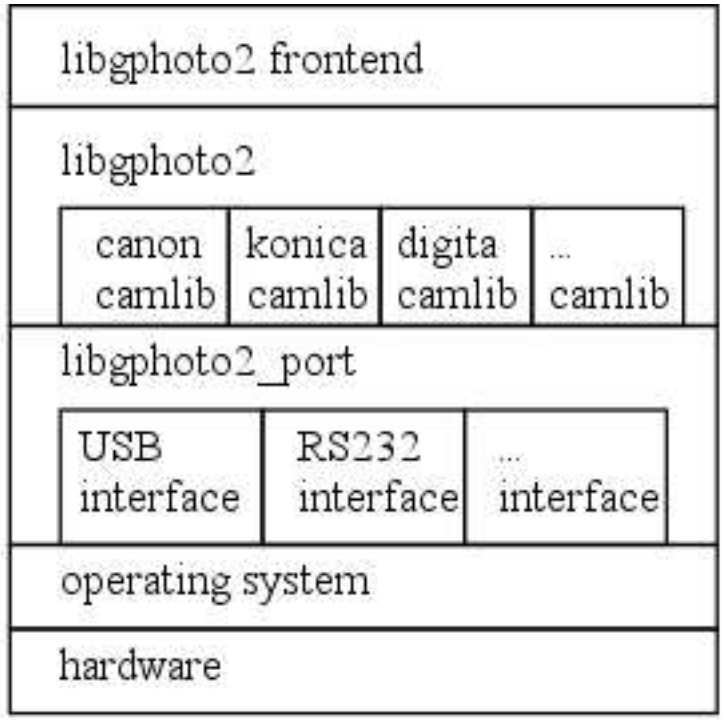
gphoto2

- Support more than 400 hundred cameras
  - Over USB or serial
  - This does not count Mass Storage devices
- Has only 37 different driver families

  Thank you OEMs...

  ... but still a lot of reverse engineering
- Just a library
- Free Software

gphoto2 architecture



$Id: architecture.fig,v 1.1 2002/08/17 23:09:55 hun Exp $

gphoto2 architecture (continued)

- Modular
  - Can plug new drivers independently
  - Abstract communication layer
- Desktop unaware

  No GUI at all
- Separate front-ends: gtkam and gphoto2
- Also a frontend for KDE: digikam

Scanners

3 different solutions:

- SANE
- EPSON-Kowa Image Scan !
- VueScan

SANE

- SANE = Scanner Access Now Easy
- Since 1996
- Lot of devices supported (47 scanner families)...

  ... but like gphoto2, a lot of reverse engineering
- Free Software
- Several front-end

SANE Architecture

- Just a library: libsane
- Hardware access layer (sanei)
- Does not care about UI
- Front-ends are just applications to provide UI
- Allow using a scanner remotely

Image Scan!

- Made by EPSON-Kowa to support **most** Epson scanners

  Thank you Epson
- Almost Free Software

  Some parts are proprietary and are provided as `*.o` binaries
  - Image processing
  - Some OEM drivers
- Better result with negatives.
- Linux/Intel only
- Exchanged driver code with SANE

VueScan

- Support some scanners that SANE do not
- Better result when scanning negatives than with XSane
- Proprietary
- Cost money (starts at $59.95 !)
- Linux/Intel, Windows and MacOS only

Managing pictures

- gThumb
- F-Spot
- The Gimp
- Nautilus

GNOME Integration

- Using libhal for device detection.
- Interact with gnome-volume-manager when a digicam is plugged in (see project Utopia).
  - Copying the images to a predefined folder
  - Start an application (gThumb, gtkam)
- Acquire image API for GNOME.

Why an API for GNOME?

- provide a standard GUI for scanning and/or image capture

  Use SANE and a front-end like XSane.

- provide a simple API to acquire a picture from an application

  Typical use: send a snail-mail via e-mail using a flatbed scanner. You'd only need to add "Scan..." to the mail application.

Conclusion

- Still more general work
- Still more devices to support
- Real GNOME integration

Questions ?

Talk will be available at http://www.figuiere.net/hub/talks/guadec5/