

PREFORMA Open Source Workshop

**Free Software and Open Formats:
Virtual immortality and independence for
digital archives**

Stockholm, 07. April 2016

Hello ;-)

Well, what actually is "Open Source"?

Common misassumptions:

- Open Source = Freeware
- Must be non-commercial
- Is nerdy and non-user friendly
- This strange "Lunax" system...?

So Open Source is actually about **YOUR user freedom...**

Free Software

Free as in free speech!

Free Software

Defined by "The 4 Freedoms"

The right to:

- **USE** it for any purpose
- **STUDY** how the program works and understand it
- **SHARE** copies of the software
- **IMPROVE** the program and distribute these changes

So what?

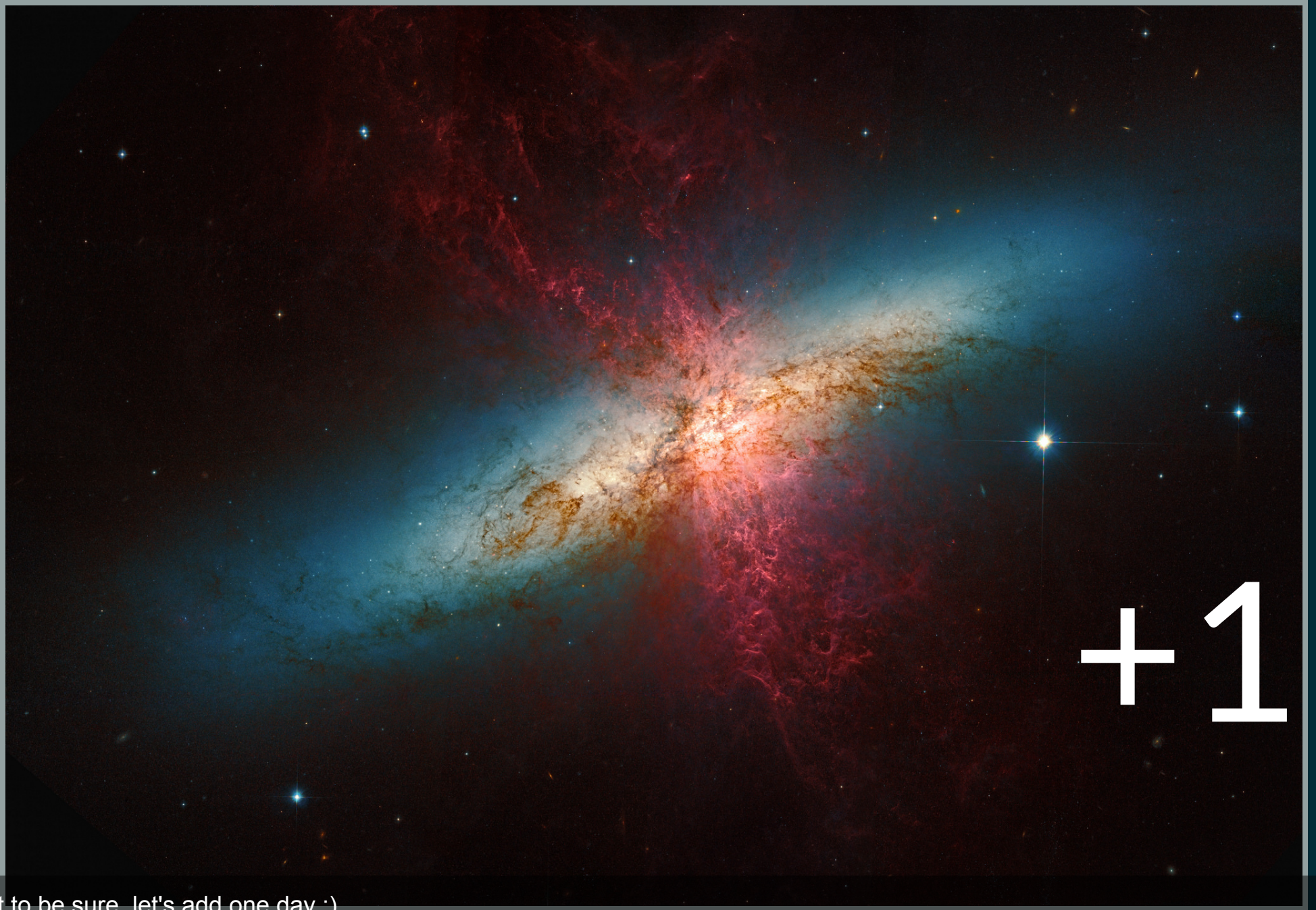
Benefits for long-term preservation?

How long is "long term"?

- 10 years?
- 100 years?
- longer?
- or: 3-5 years?
= market-lifetime of software



Let's define "long term" for preservation/archiving as = Infinity! :)



Just to be sure, let's add one day ;)
Long-term = Infinity + 1 day

Virtual Immortality?

- Archive your replayer
- Including schematics
- Building components
- Exchange it with others
- Make it work under future conditions

**Why isn't it more widely used or known in
archival domains?**

Sounds too good to be true. So why is the norm software still proprietary in archiving?



It's a **chicken-egg-problem**:

- Vendors don't offer FOSS, because customers/archives don't request FOSS.
- Archives don't request FOSS, because vendors don't offer FOSS.

Perceived professionalism and quality

- Price = quality?
- GUI = quality?
- Professionals not using it?
- Ongoing support?
- Responsibilities?

"Professionals" often consider brand and price as an indicator for quality. This is why "free" is often mistakenly thought to be "unprofessional" or of lower quality.

With these doubts, and because *"noone has ever done this before..."*, archives currently rather stay with proprietary products.

Usability concerns or lack of: GUI, ease of install, support, etc.

Understandable - but this can be improved.

Price = Quality?

- You can get buggy software under all licenses: proprietary and free.
- And within any price-range ;)

Price = Quality?

Quality of software is price- and license-independent.

This should always be kept in mind when dealing with software. Also the fact that "just because everybody else is using it" doesn't mean it's good (for you).

Professional vs. Free?

Professionals don't use Free Software...?

- BBC:
 - Dirac: <http://diracvideo.org/>
 - Ingex: <http://ingex.sourceforge.net/>
 - and many more:
<http://www.bbc.co.uk/opensource/projects/>
- **GlusterFS**: Used for Hollywood movies
- **Open EXR**: Developed and used by "Industrial Light & Magic"
- And GNU/Linux (which also powers the Internet) of course ;)

Independence?

The archival domain

- Relatively small market (niche)
- Off-the-shelf products often focus on different use cases
- Highly specialized demands
- High potential for vendor dependence...

With Free Software

- Reusability of existing solutions
- Free choice of (local) support/suppliers
- No black-box
- Common tools/codebase = larger userbase
- Less "forced" upgrades

The next step:

Professionalization of Free Software

Paying for Free Software:

The best of both worlds

Currently, funding goes to vendors who do not offer you choice/freedom. Is it in your interest to fund entities that profit from your dependence, lock-in and black-boxes you can't control?

Paying for Free Software

Benefits:

- Better support/updates
- Pooling resources
- Improvements available "upstream"
- Designed for *your* use-cases
- Overall better cost-effectiveness
- Public money = public solutions

FOSS offers **you** freedom - and control over your tech-environment. If you don't support FOSS with resources, you will lose these freedoms/control - because: Who should offer it to you, then?

Professionalizing Free Software:

How?

- Make support contracts
- Paid installation/integration
- Hire developers
- Non-financial contributions:
 - Documentation
 - Testing / bug-reports
 - Helping others

If you like a FOSS tool - especially if you use it at work:

Consider paying at least some amount. It will keep the project healthy - and you profit from that.

Professionalizing Free Software:

Whom to ask?

- Open Preservation Foundation
- Free Software Foundation Europe (FSFE)
- Maintainer of FOSS-project of your interest
- Companies that support/develop Free Software

Professionalizing Free Software:

A real-world example

The lossless video codec FFV1

How it all began...

- Austrian National Archive (Mediathek) wanted to do lossless digital video archiving
- Not satisfied with existing products (Interoperability issues)
- Found FFV1 in FFmpeg
- Excellent codec, but we wanted/needed more...

How we used the "4 freedoms"...

- Contacted and hired FFV1 maintainer Michael Niedermayer
- Other parties involved (pooled resources)
- Budget calculated in reference to costs of proprietary alternatives
- Had FFV1 improvements in progress...

How it continued...

- FFmpeg forked: LibAV
- Patches then submitted to LibAV, too
- FFV1.3: faster and integrity-aware
- Important: Published our experiences with FFV1
- So: Other archives using FFV1 now profit from improvements, too!

PREFORMA's role

- Upcoming conformance/policy checker
- Standardization of FFV1/MKV
- Increased credibility of these formats
- Reduced skepticism of users/vendors
- Encouraging similar projects in the future

A growing Free Software ecosystem for long-term preservation

- VeraPDF
- DPF Manager
- MediaInfo, MediaConch
- JHOVE
- DROID
- VLC
- FFmpeg / LibAV
- SoX, ImageMagick
- Archivematica
- CollectiveAccess
- DVA-Profession
- AnyArk
- QCTools
- dvdisaster
- and many more...

Collaboration welcome

We archives have:

- Common interests.
- Common challenges.
- Common solutions?

- We all profit from investing in FOSS solutions.
- FOSS allows pooling resources.
- FFV1 just one example for what is possible.

- Fin -

About myself

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- Studied Media Computer Science at the TU Vienna
- Developer and Tech-Consultant since 2000
- Hands-on experience with archives since 2002:
 - Austrian Mediathek
 - University of Notre Dame Archives
 - The National Archives U.K.
 - ORF (National broadcaster, Austria)
 - VoV (National broadcaster, Vietnam)
 - RTV (National broadcaster, Slovenia)
 - SRTC (National broadcaster, Sudan)
 - Fonoteca Nacional (Mexico)
 - Memnon Archiving Services (Belgium)
 - SRF (Sweden), YLE (Finland), SRR (Romania), ...

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