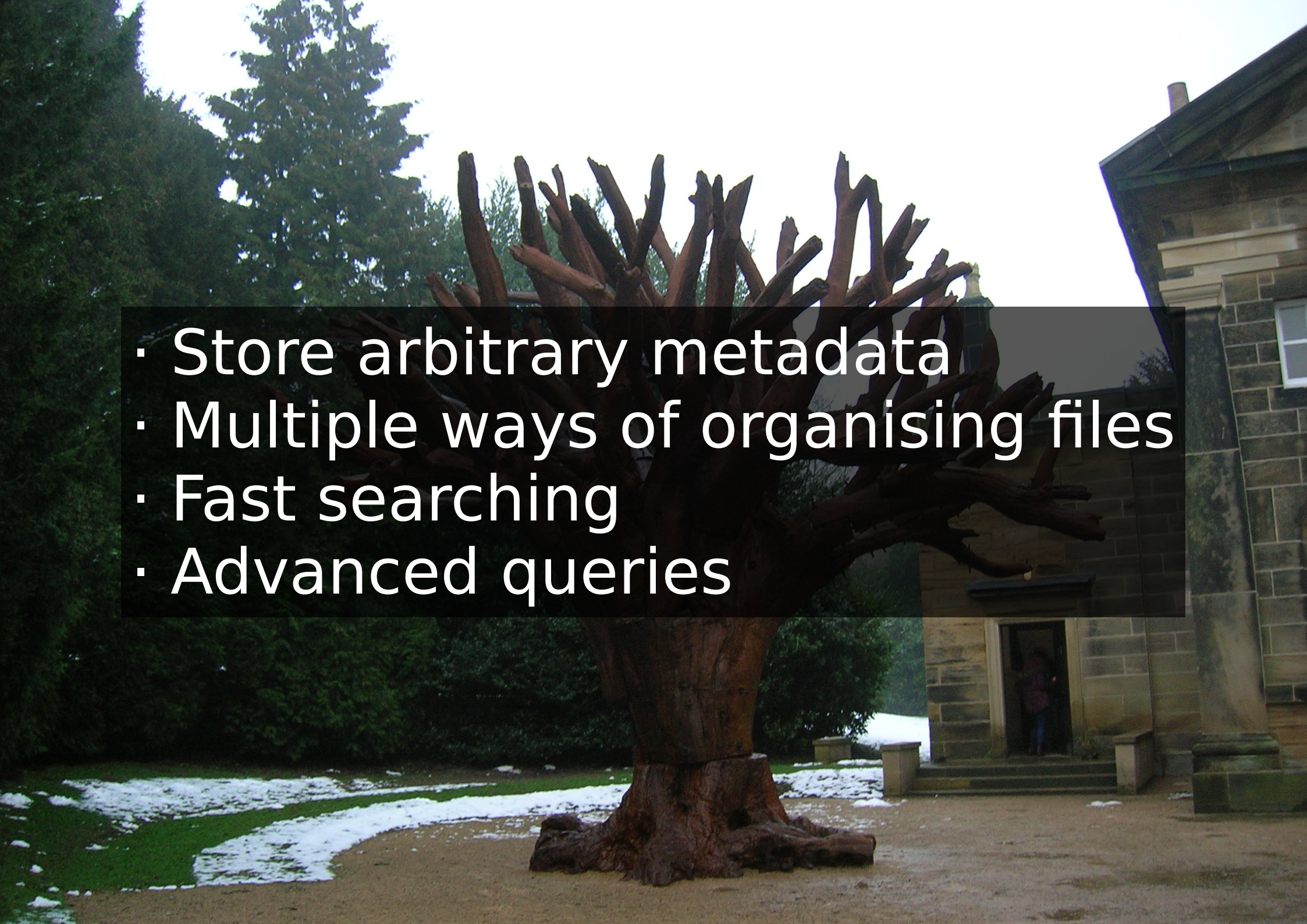
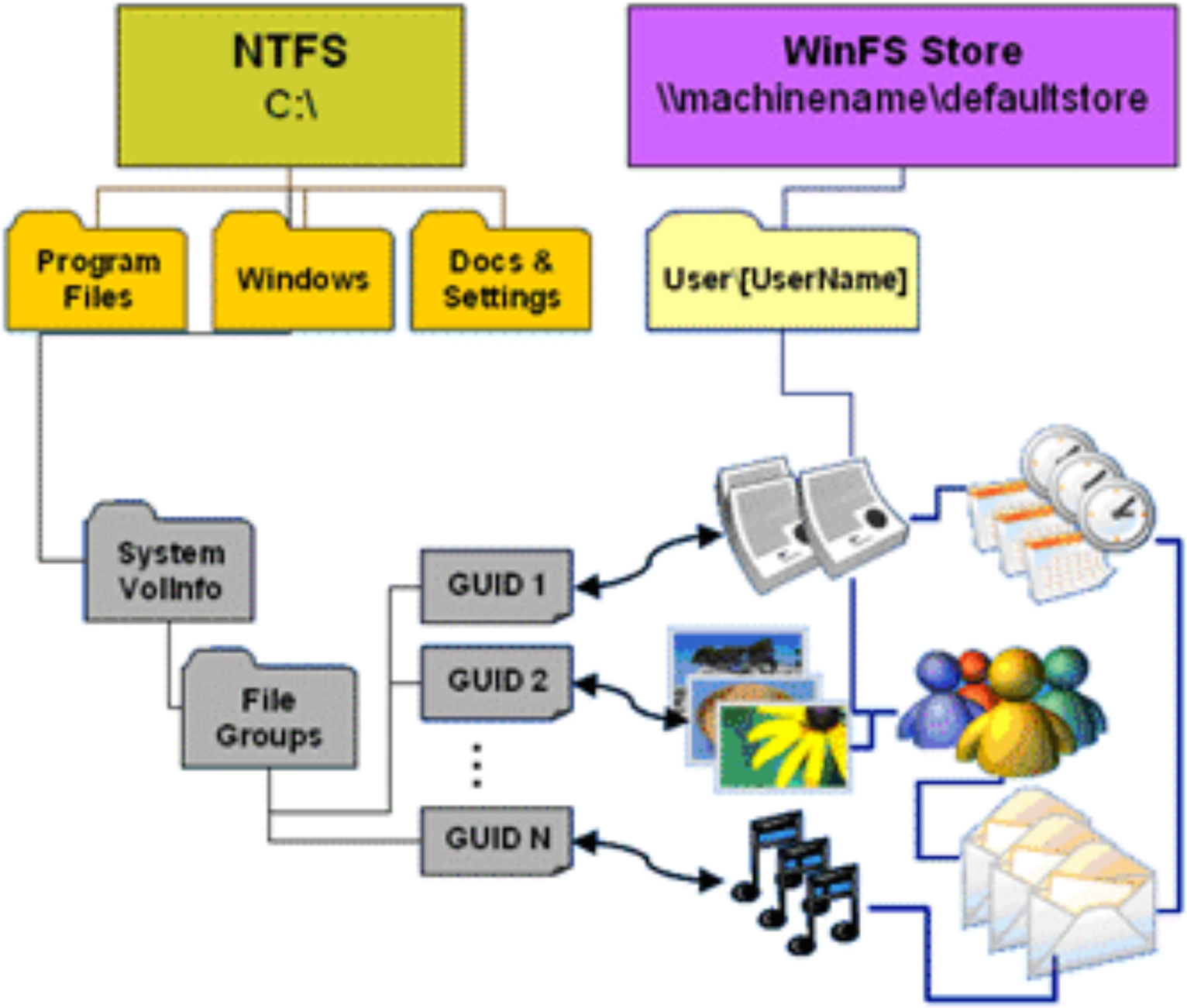
Tracker: introduction and reflection

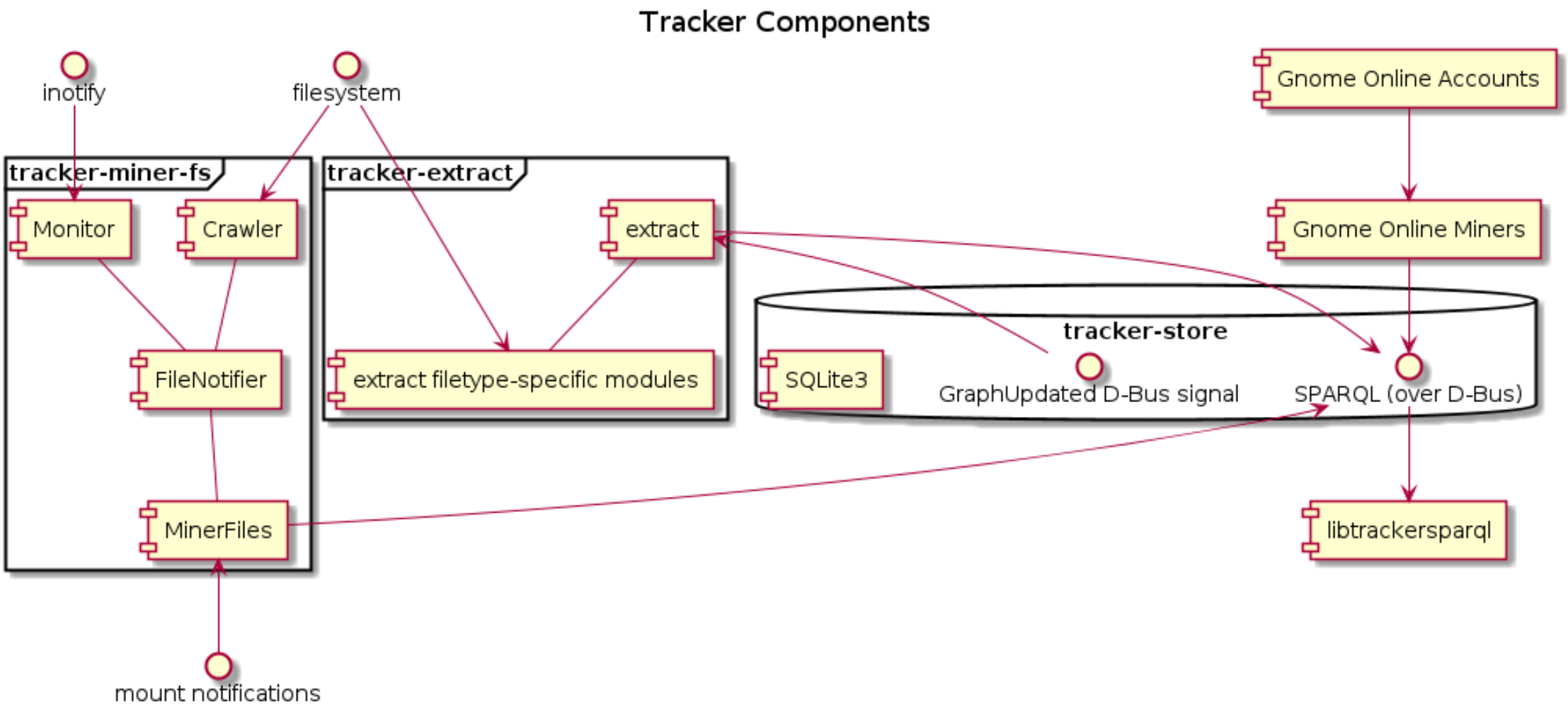
The "database filesystem"


· Store arbitrary metadata
· Multiple ways of organising files
· Fast searching
· Advanced queries

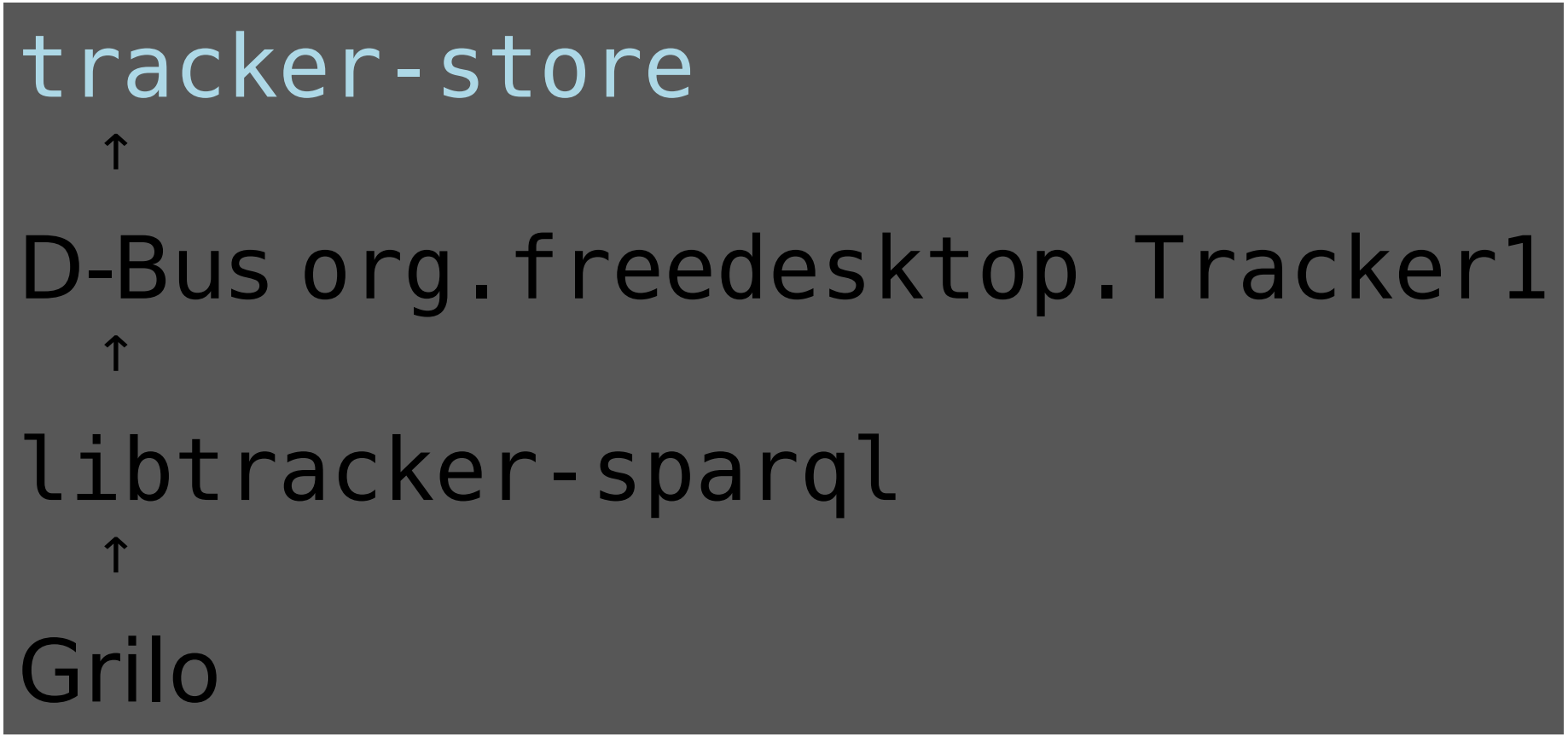
NTFS ←→ WinFS

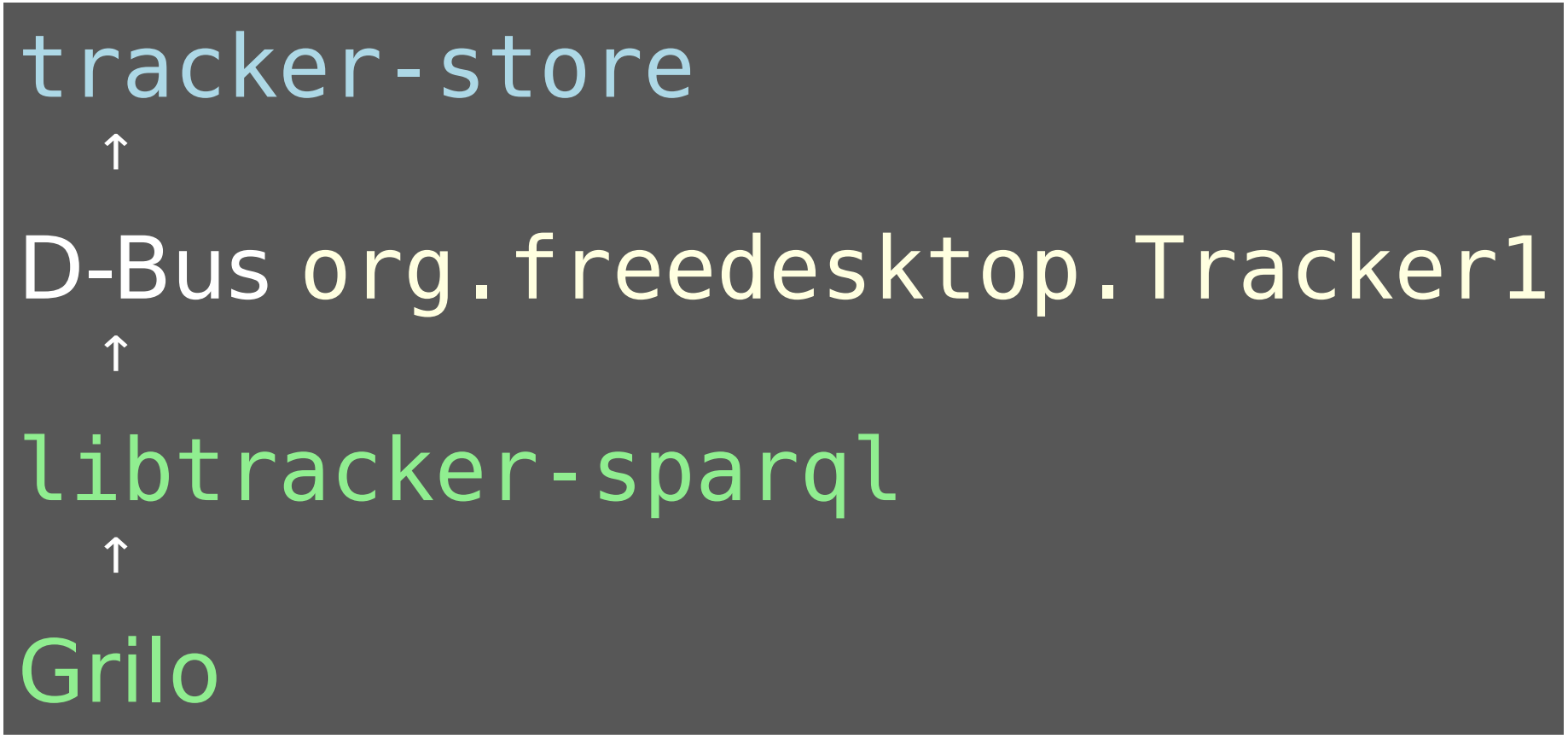

NTFS
C:\
WinFS Store
\\machinename\defaultstore
Program Files
Windows
Docs & Settings
User [UserName]
System VolInfo
File Groups
GUID 1
GUID 2
GUID N

How Tracker works (2015 edition)


Tracker Components
inotify
filesystem
Gnome Online Accounts
tracker-miner-fs
tracker-extract
Monitor
Crawler
extract
Gnome Online Miners
tracker-store
FileNotifier
extract filetype-specific modules
SQLite3
GraphUpdated D-Bus signal
SPARQL (over D-Bus)
MinerFiles
libtrackersparql
mount notifications

tracker binary


tracker-store
↑
D-Bus org.freedesktop.Tracker1
↑
libtracker-sparql
↑
Grilo

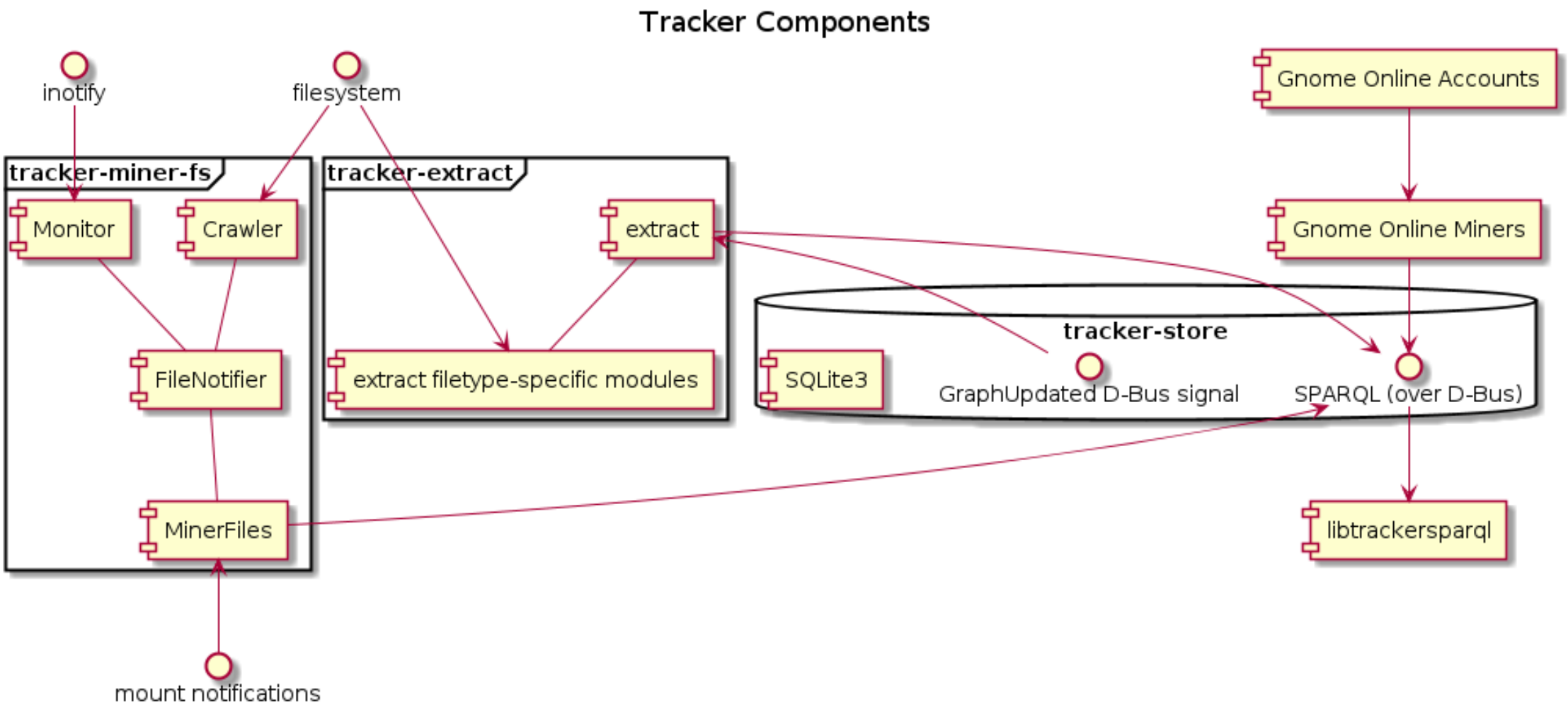

tracker-store
↑
D-Bus org.freedesktop.Tracker1
↑
libtracker-sparql
↑
Grilo

Nepomuk

"*Networked Environment for Personalized, Ontology-based Management of Unified Knowledge*"

`tracker-extract` and `tracker-miner-fs`

gnome-online-miners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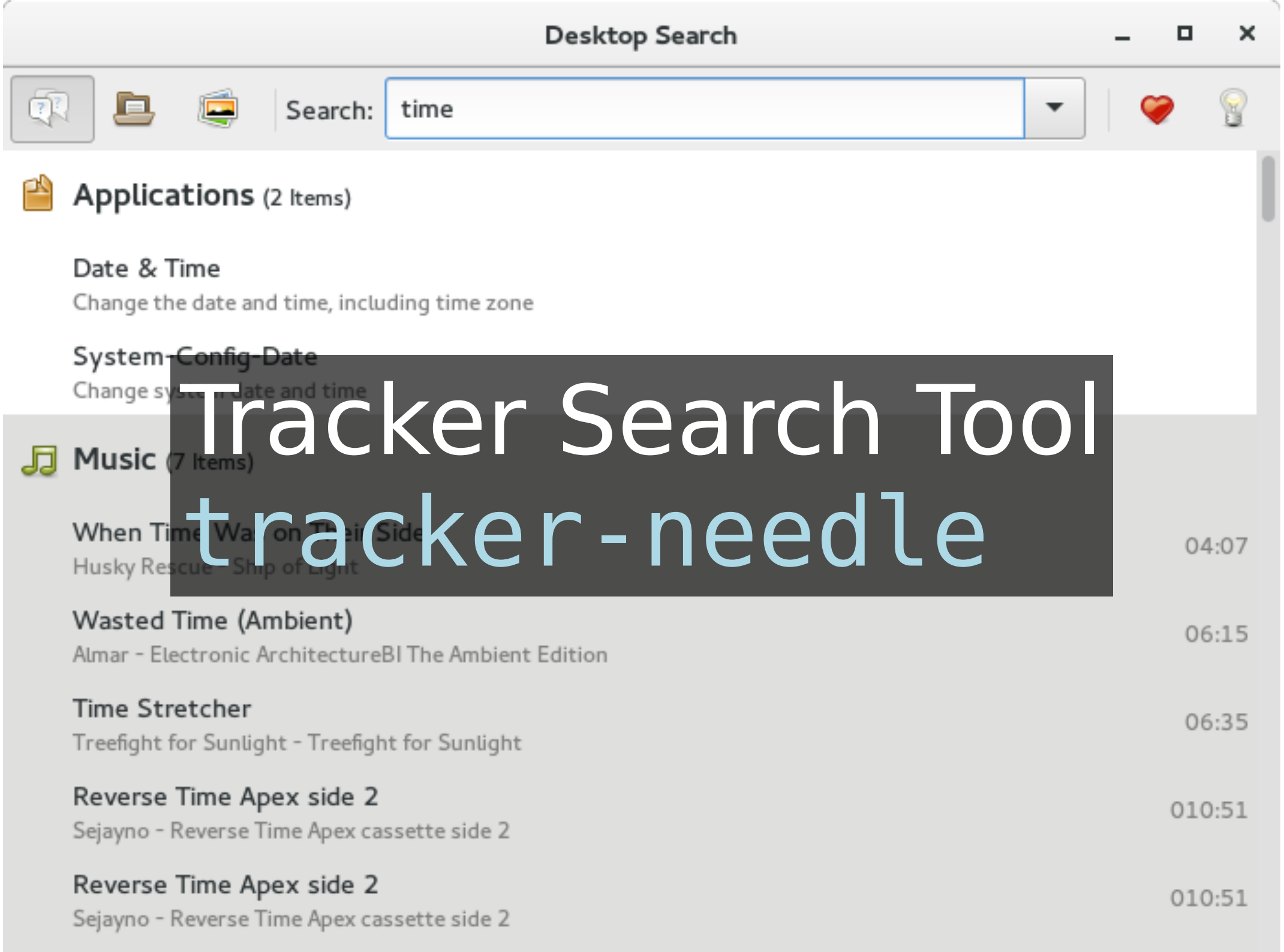
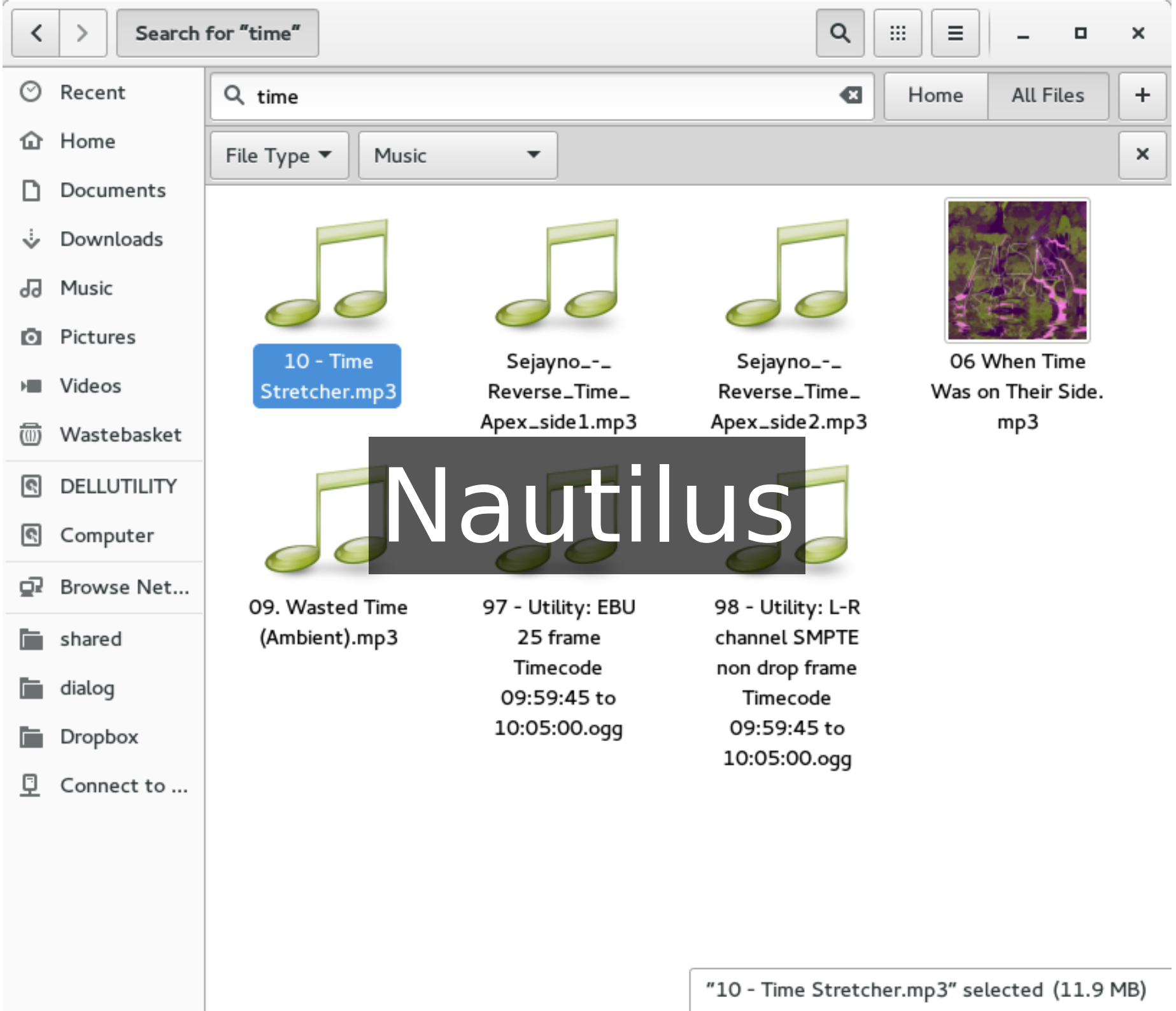
mount notifications

How can I use Tracker?


Desktop Search
Search:
time
Applications (2 Items)
Date & Time
Change the date and time, including time zone
System-Config-Date
Music (7 Items)
04:07
Wasted Time (Ambient)
Almar - Electronic ArchitectureBI The Ambient Edition
06:15
Time Stretcher
Treefight for Sunlight - Treefight for Sunlight
06:35
Reverse Time Apex side 2
Sejayno - Reverse Time Apex cassette side 2
010:51
Reverse Time Apex side 2
Sejayno - Reverse Time Apex cassette side 2
010:51
Tracker Search Tool
tracker-needle


Search for “time”
Recent
Home
Documents
Downloads
Music
Pictures
Videos
Wastebasket
DELLUTILITY
Computer
Browse Net...
shared
dialog
Dropbox
Connect to ...
time
Home
All Files
File Type
Music
10 - Time Stretcher.mp3
Sejayno_-_Reverse_Time_Apex_side1.mp3
Sejayno_-_Reverse_Time_Apex_side2.mp3
06 When Time Was on Their Side.mp3
09. Wasted Time (Ambient).mp3
97 - Utility: EBU 25 frame Timecode 09:59:45 to 10:05:00.ogg
98 - Utility: L-R channel SMPTE non drop frame Timecode 09:59:45 to 10:05:00.ogg
Nautilus
“10 - Time Stretcher.mp3” selected (11.9 MB)

Gnome Documents

Recent | Collections

How to use LaTeXfor...EC 2015

Adrien Plazas kekun.pl...

#I/15.0795

PlantUML Language Reference Guide

Rubber Duck Orchestra - Artist Ticket Fo...wn2015

Sam Thursfield - Village G...ote form

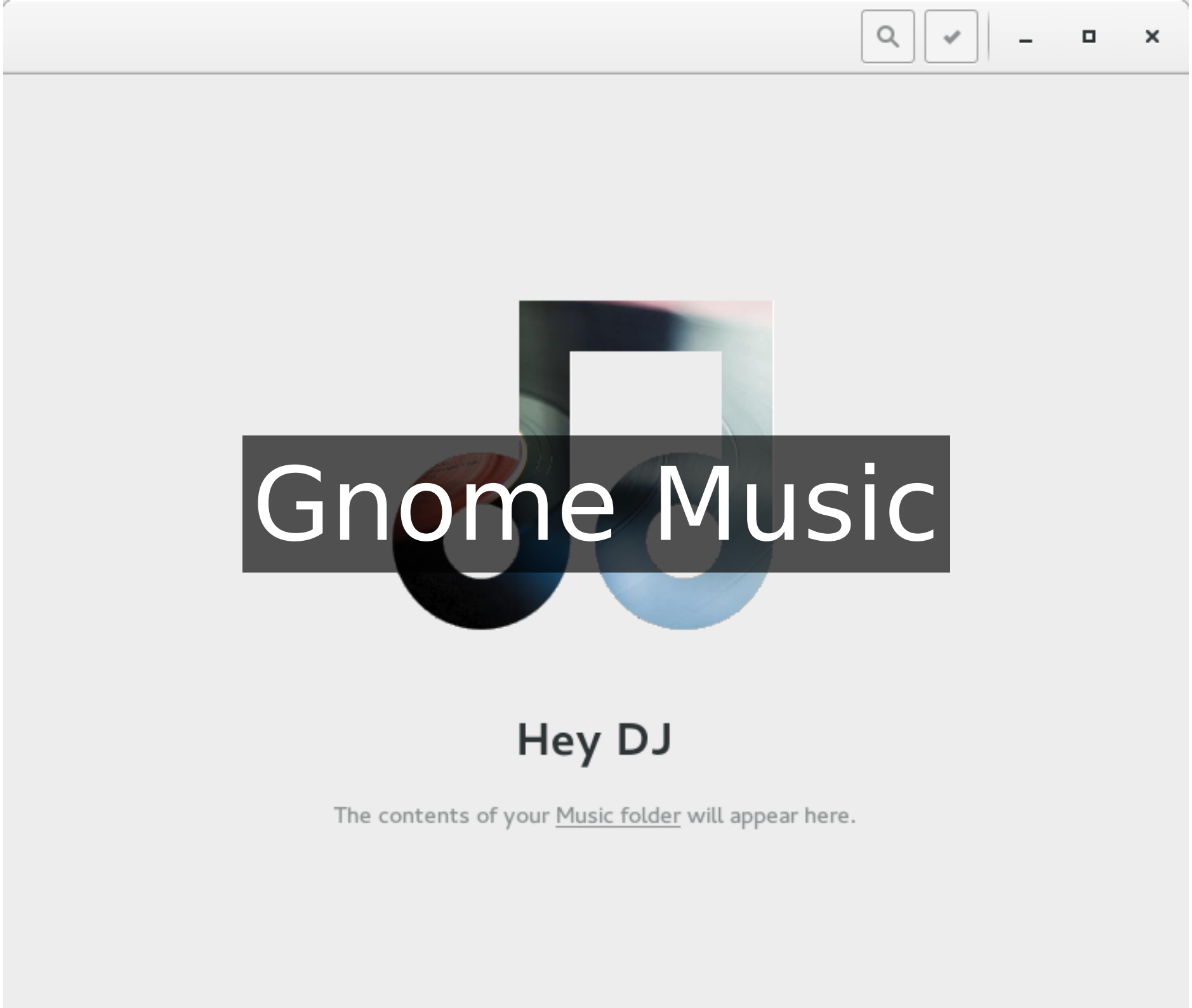
john smith

June GM proxy vote form

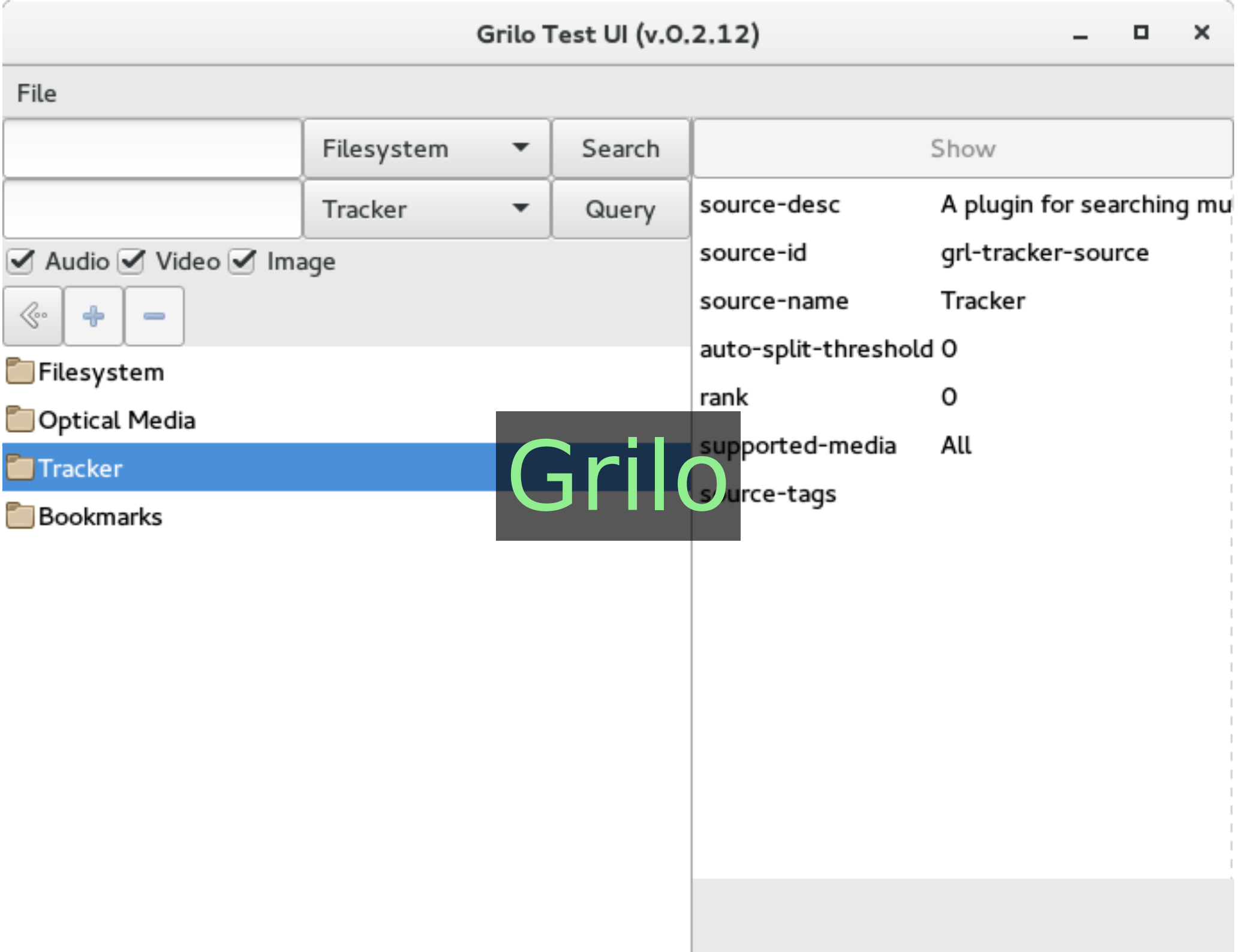
john smith

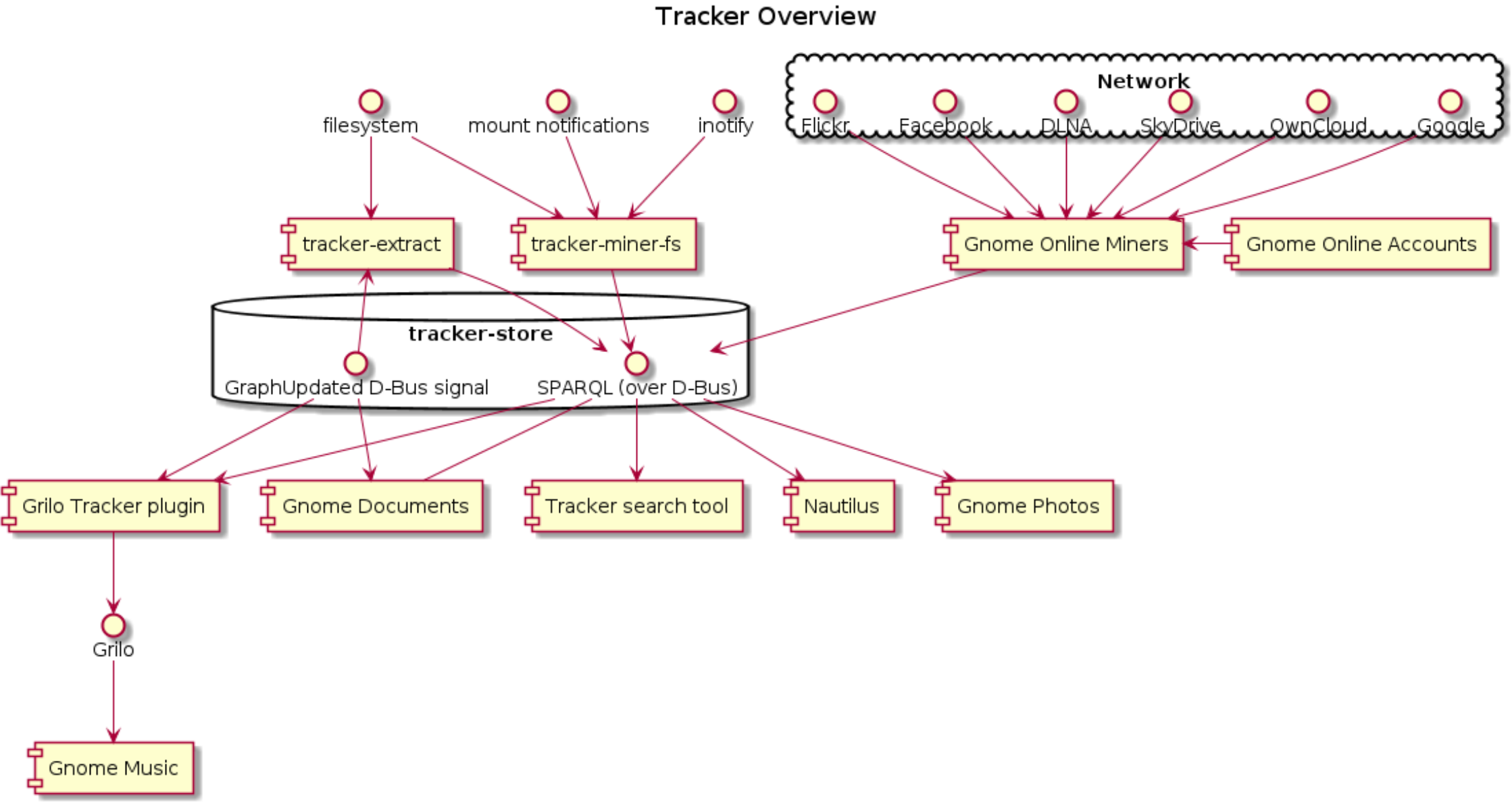
Rubber Duck Orchestra - Artist Ticket Fo...wn2015

Boarding pass


Gnome Music
Hey DJ
The contents of your Music folder will appear here.

Recent
Albums
Favourites
Gnome Photos


Grilo Test UI (v.0.2.12)
File
Filesystem
Search
Show
Tracker
Query
source-desc
A plugin for searching mu
source-id
grl-tracker-source
source-name
Tracker
auto-split-threshold
0
rank
0
supported-media
All
source-tags
Audio
Video
Image
Filesystem
Optical Media
Tracker
Bookmarks
Grilo


Tracker Overview
Network
Flickr
Facebook
DLNA
SkyDrive
OwnCloud
Google
filesystem
mount notifications
inotify
tracker-extract
tracker-miner-fs
Gnome Online Miners
Gnome Online Accounts
tracker-store
GraphUpdated D-Bus signal
SPARQL (over D-Bus)
Grilo Tracker plugin
Gnome Documents
Tracker search tool
Nautilus
Gnome Photos
Grilo
Gnome Music

Jolla

Others ... ?
Gavin Maxwell / naturepl.com

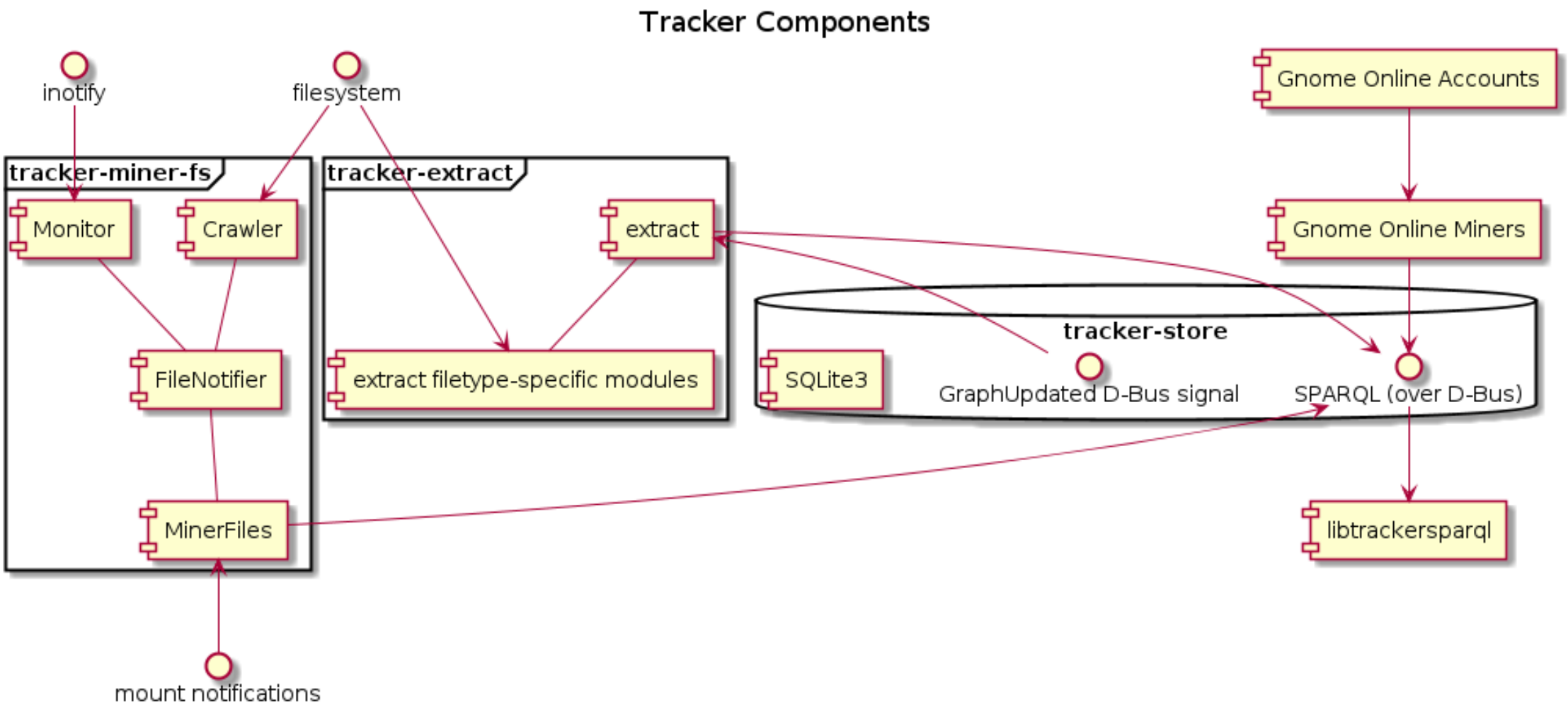
Pros and cons of the current Tracker code

pro: Integrates with existing filesystem
Photo: Luc Viatour
http://www.lucnix.be/

pro: Based on SQLite3
Photo: Luc Viatour
http://www.lucnix.be/

pro: Years of integration and testing
Photo: Luc Viatour
http://www.lucnix.be/

pro: Well-specified interfaces between each component
Photo: Luc Viatour
http://www.lucnix.be/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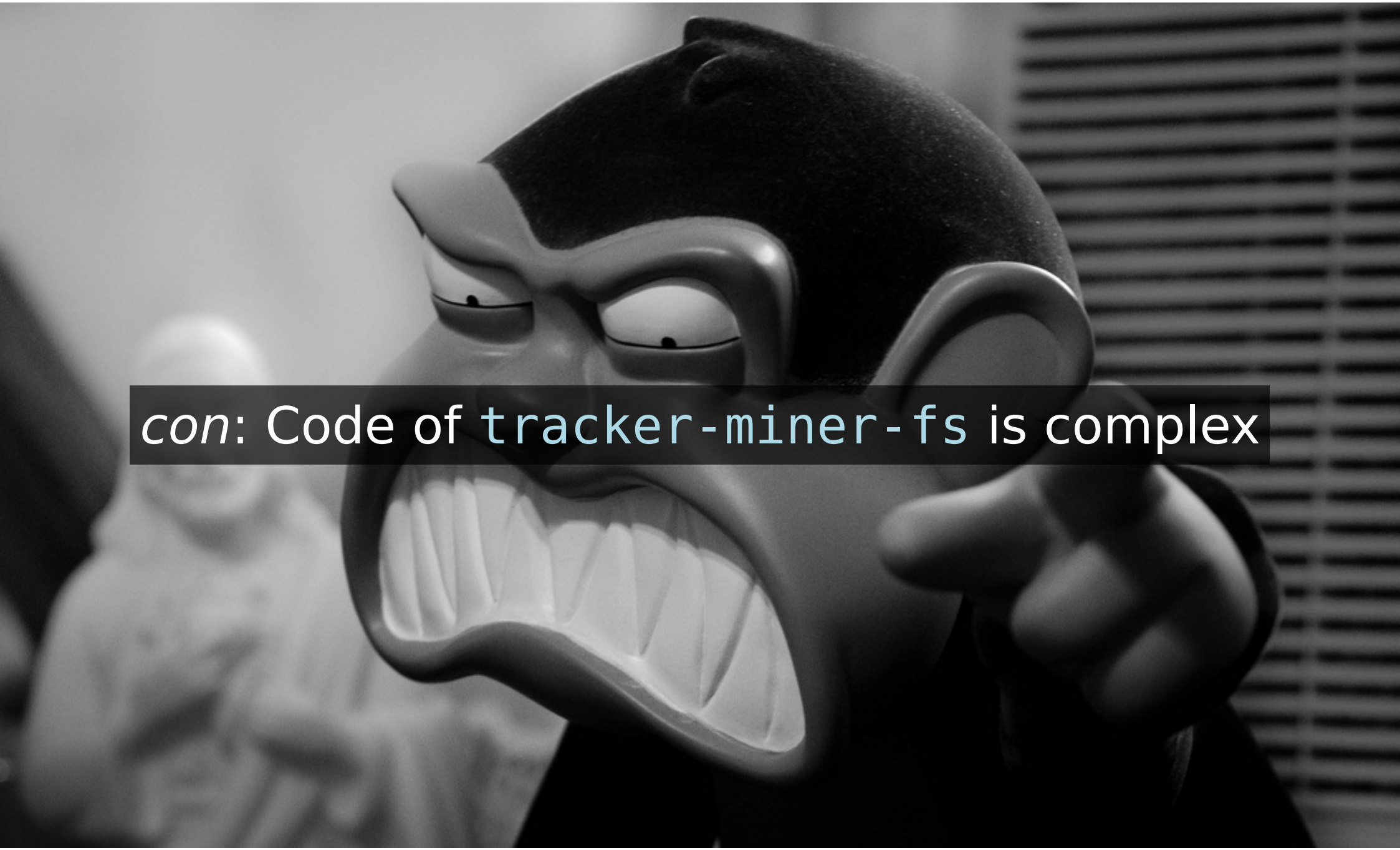
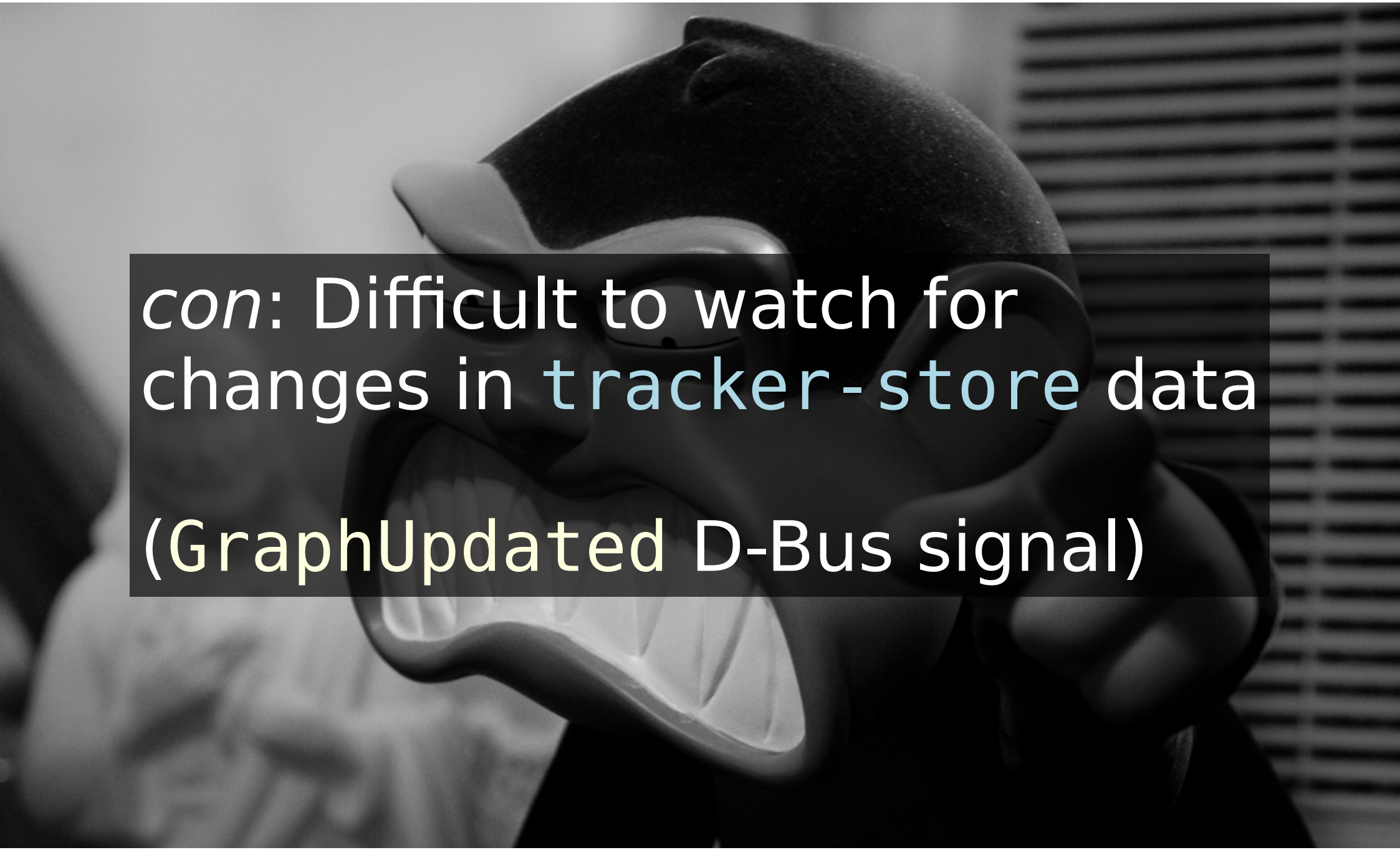
con: Inefficient ... ?

con: tracker-miner-fs abuses 'inotify' API


con: Code of `tracker-miner-fs` is complex

con: Miner can get clogged up by lots of small files (e.g. source code repos)


con: Difficult to watch for changes in `tracker-store` data
(`GraphUpdated` D-Bus signal)

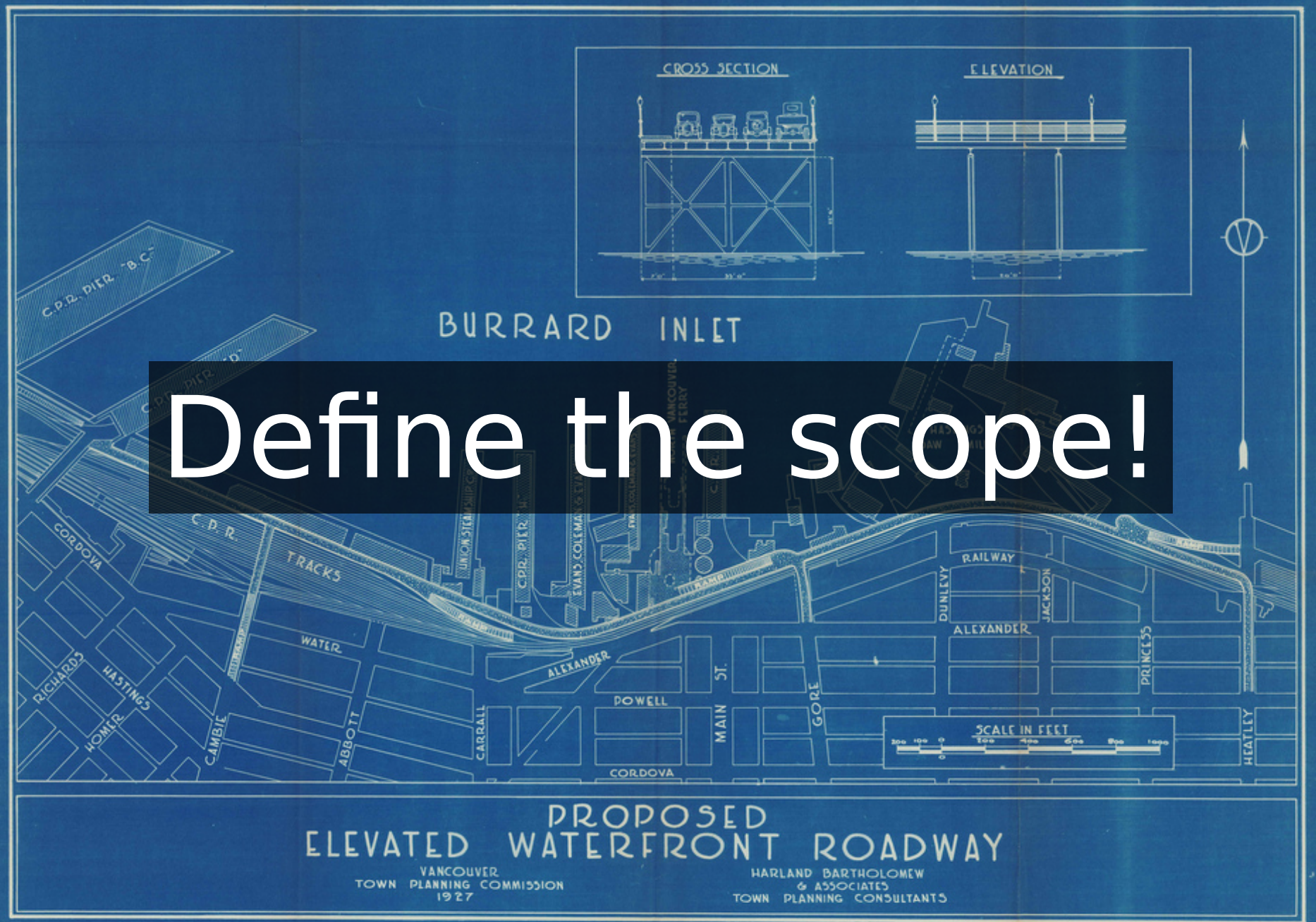
con: Changing ontologies makes
tracker-store's life difficult

Future

Give up and start again?

Baloo – KDE Community Wiki
https://community.kde.org/Baloo
KDE Community Wiki
Page
Discussion
View
View source
History
Baloo
Baloo is the file indexing and file search framework for KDE.
Mailing List: kde-devel@kde.org
IRC Channel: #kde-baloo on
Baloo
Baloo focuses on providing a very small memory footprint along with with extremely fast searching. It internally uses a mixture of sqlite along with Xapian to store the file index.
Using Baloo
Like its predecessor, Nepomuk, Baloo is not an application, but a component which can be used by developers within applications. Applications like the Kontact Suite, Dolphin and Gwenview, as well as the Plasma Desktop itself, use the Baloo framework to provide search results.
Privacy policy
About KDE Community Wiki
Disclaimers
KDE Links

Photo: City of Vancouver Archives
https://www.flickr.com/photos/vancouver-archives/5614065148



Define the scope!

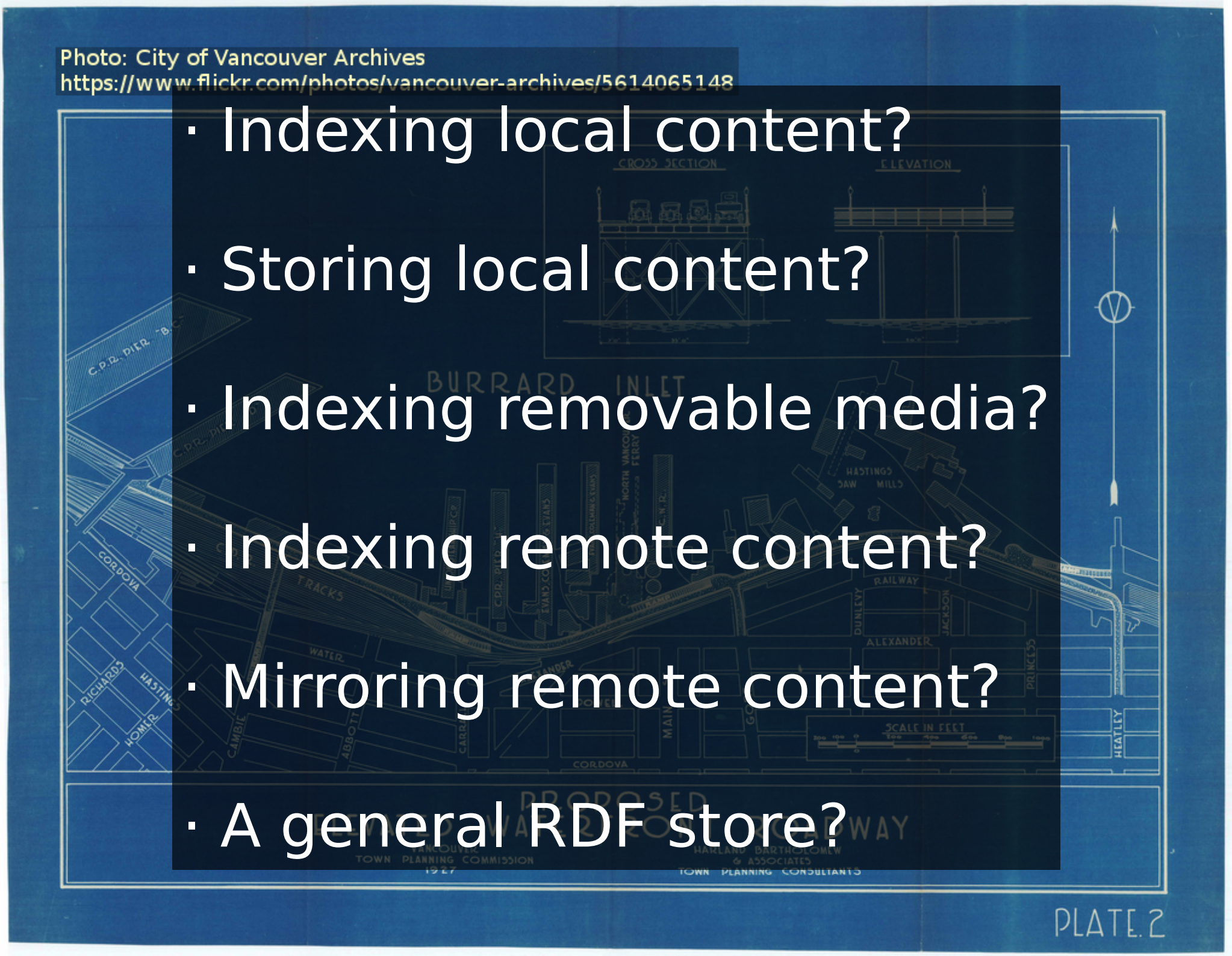
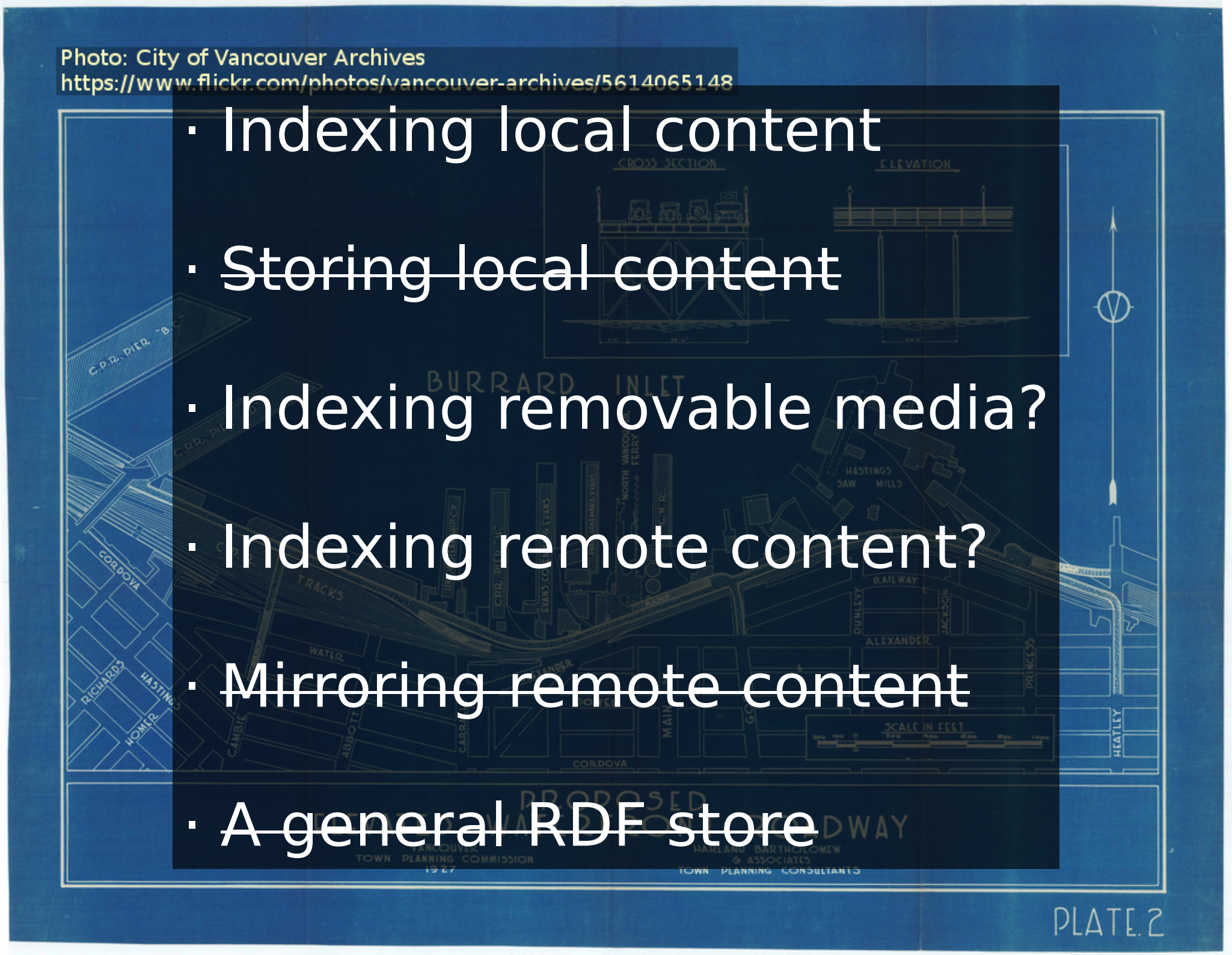
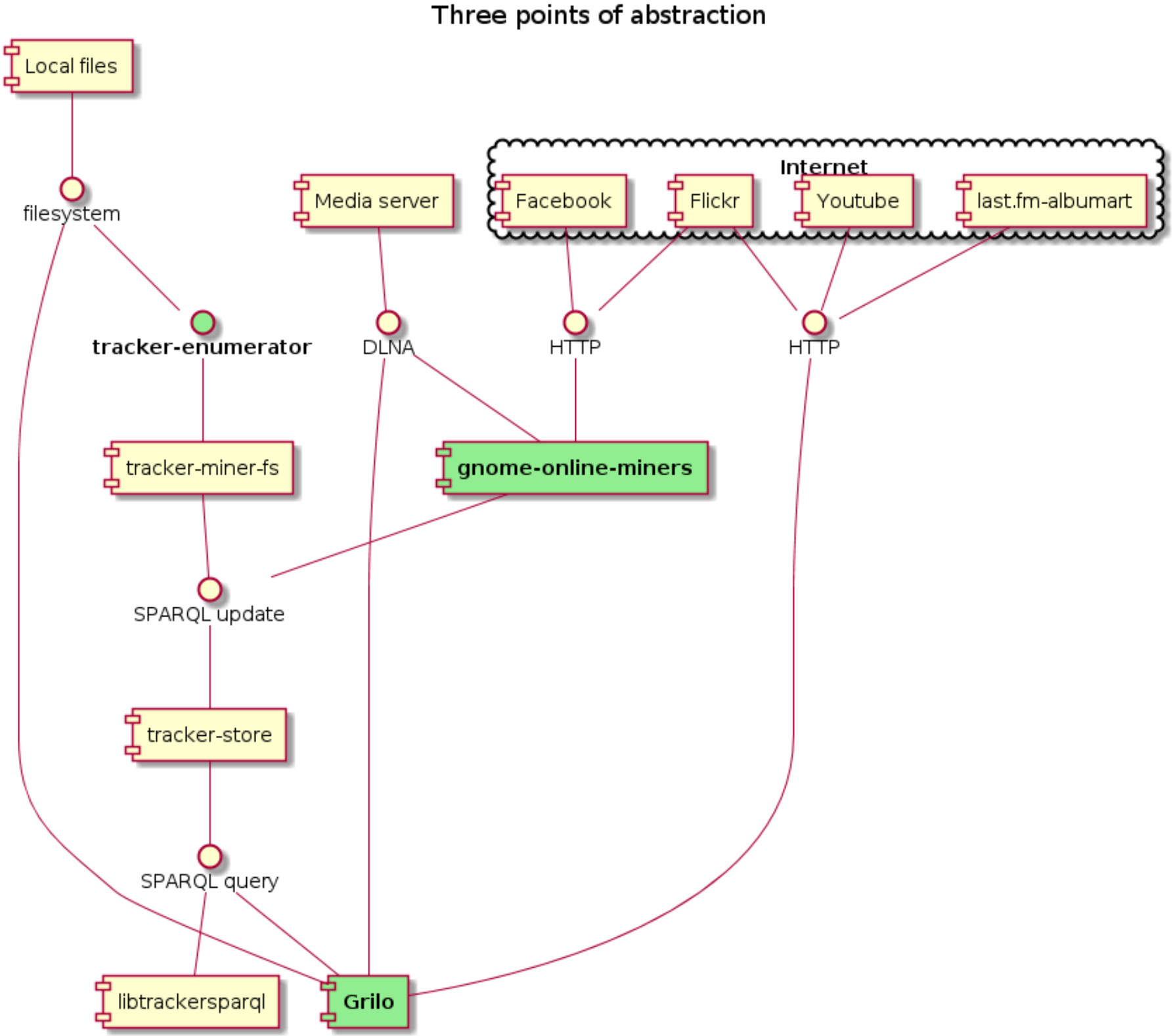


Photo: City of Vancouver Archives
https://www.flickr.com/photos/vancouver-archives/5614065148
· Indexing local content?
· Storing local content?
· Indexing removable media?
· Indexing remote content?
· Mirroring remote content?
· A general RDF store?
CROSS SECTION
ELEVATION
BURRARD INLET
C.P.R. PIER "B"
HASTINGS SAW MILLS
CORDOVA
WATER
ALEXANDER
DUNLEVY
JACKSON
PRINCESS
HEATLEY
SCALE IN FEET
TOWN PLANNING COMMISSION
HARLAND BARTHOLOMEW & ASSOCIATES
TOWN PLANNING CONSULTANTS
PLATE 2



- Indexing local content
- ~~Storing local content~~
- Indexing removable media?
- Indexing remote content?
- ~~Mirroring remote content~~
- ~~A general RDF store~~

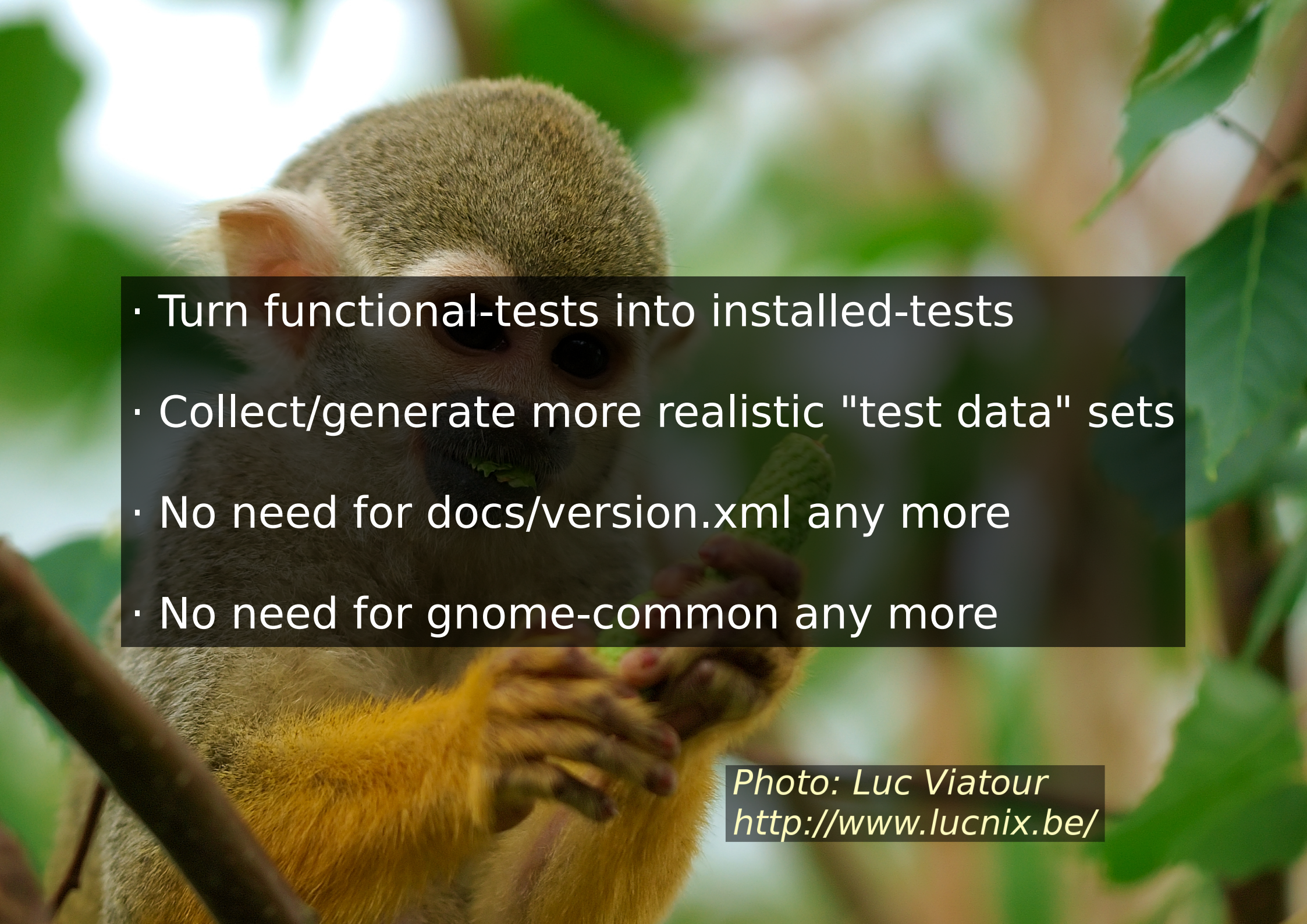
Small plans!


Three points of abstraction
Local files
filesystem
Media server
Internet
Facebook
Flickr
Youtube
last.fm-albumart
tracker-enumerator
DLNA
HTTP
HTTP
tracker-miner-fs
gnome-online-miners
SPARQL update
tracker-store
SPARQL query
libtrackersparql
Grilo

Fix usage of recursive inotify

Align with:
· 4store
· Baloo
· Elasticsearch
Photo: Luc Viatour
http://www.lucnix.be/

· Opt-in scanning of removable devices
· Bring plugins (Evo, Thunderbird) up to date
· Improve the documentation at http://wiki.gnome.org/Projects/Tracker
Photo: Luc Viatour
http://www.lucnix.be/


· Turn functional-tests into installed-tests
· Collect/generate more realistic "test data" sets
· No need for docs/version.xml any more
· No need for gnome-common any more
Photo: Luc Viatour
http://www.lucnix.be/

Website: https://wiki.gnome.org/Projects/Tracker
IRC: irc.gnome.org #tracker
Mailing list: tracker-list@lists.gnome.org