A tag based filesystem

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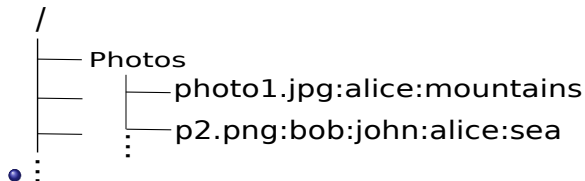- Conclusions

Introduction

- Looking for alternatives for the classic file system
- TagFS - tag based file system
- Tag files and browse files by tags
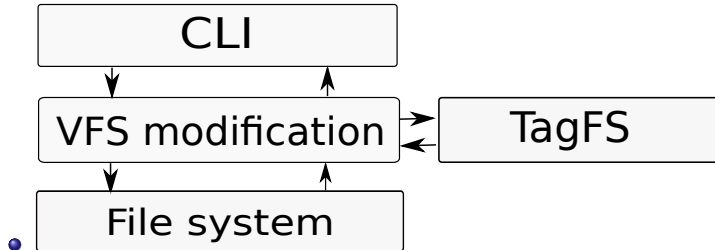- Personalized content and user-friendly

Related work

- TagFS: Bringing Semantic Metadata to the Filesystem
  - http: //www.eswc2006.org/poster-papers/FP31-Schenk.pdf
- Nepomuk-KDE
  - http://nepomuk.kde.org/
- TaggedFrog
  - http://lunarfrog.com/

TagFS hierarchy

- The filesystem hierarchy whill remain unchanged but files will have associated tags

```
/
├── Photos
│   ├── photo1.jpg:alice:mountains
│   └── p2.png:bob:john:alice:sea
│       ⋮
⋮
```
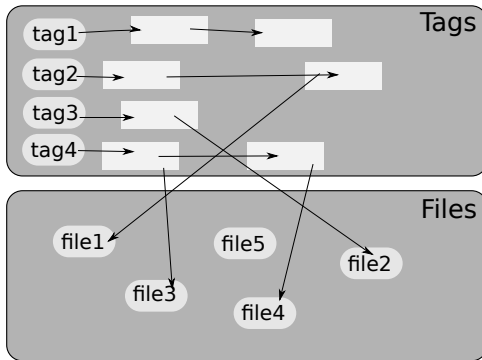
TagFS architecture

Database

- Multiple files mapped to a tag

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VFS Operations

- touch filename:tag1:tag2:...
    - create file with tags (add metadata in tagfs structure)
    - vfs function: do_sys_open

- mv
    - move file (change metadata in tagfs structure)
    - vfs function: rename

- cp
    - create a copy of file (add metadata in tagfs structure)
    - vfs function: unlink

- ls
    - list files and associated tags, iterate through tagfs structure
    - vfs function: getdents

TagFS Operations

- All use fcntl syscall
- tag -l filename
    - list tags associated with a file
- tag -a filename:tag1:tag2:...
    - Add tag1, tag2,.. tags to file
- tag -d filename:tag1:tag2:...
    - Remove tag1, tag2,... tags from file

TO DO

- To Do...

Conclusions

- Improvements:
    - Lower external fragmentation of disk
- A tag file system is a feasible solution now-a-days
- Some more stuff written here

Questions?

- Thank you !