ForgetIT

ForgetIT Project, GA 600826

WP9 Personal Preservation
D9.2 Mock-ups

The ForgetIT consortium

This presentation is bundled with the deliverable D9.2 Use cases & Mock-ups

COOPERATION

Version 1.0, February 2014

Mock-up Overview

◆ **Preservation**
 – Preserving with PIMOCloud & Restoring

◆ **Forgetting**
 – Forgetting files no longer relevant
 – Accessing forgotten material
 – Buoyancy-enhanced PIMO UI

◆ **Reminiscence with Photos**
 – PIMO-based photo organization

◆ **PIM with PIMO**
 – Tagging resources with FireTag
 – Task Management with FireTask
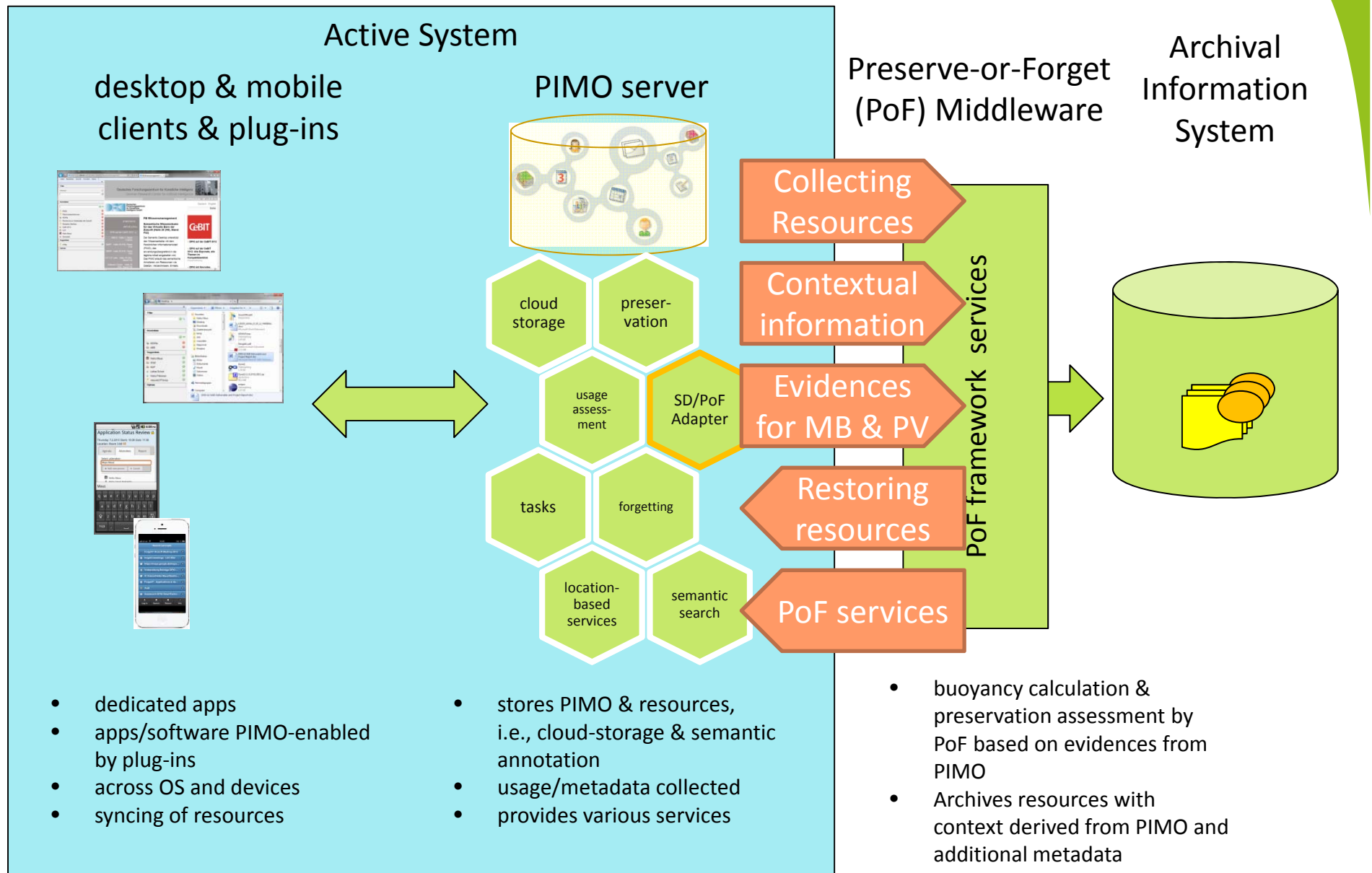 – Calendar
 – Semantic Text Writing with seed

benefit

usage

Role of the Semantic Desktop in the Preserve-or-Forget Framework

Semantic Desktop in the PoF architecture

Active System

desktop & mobile clients & plug-ins

PIMO server

Preserve-or-Forget (PoF) Middleware

Archival Information System

- Collecting Resources
- Contextual information
- Evidences for MB & PV
- Restoring resources
- PoF services

cloud storage

preser-vation

usage assess-ment

SD/PoF Adapter

tasks

forgetting

location-based services

semantic search

PoF framework services

- dedicated apps
- apps/software PIMO-enabled by plug-ins
- across OS and devices
- syncing of resources

- stores PIMO & resources, i.e., cloud-storage & semantic annotation
- usage/metadata collected
- provides various services

- buoyancy calculation & preservation assessment by PoF based on evidences from PIMO
- Archives resources with context derived from PIMO and additional metadata

Role of the Semantic Desktop components

recency

immediate	up to medium-term	medium-term	long-term
mobile	**desktop**	**PIMO server**	**archive**

User expectation

• Immediate relevant material is available • Recency in model as well as important concepts (hotness function) • Only most recent versions of resources required • Constant swapping/ refreshing (in WLAN) to keep recency is OK	• Quick availability of recent & work related material • Broader range of resources: work relevant are available on immediate access (e.g., think of offline requirements); outdated ones are available on request • Clutter of not-relevant stuff is gone, i.e., details can be removed from desktop • "relieve the burden to see everything"	• Provides access to all material • Condense and compact to get a sharper view • Old versions of files can be deleted & moved to backup/archive • Semantic associations allow to remember & access archived material • Users are able to "pull on strings" to get the information back; like reconstructing a certain event by starting with the impressive building it was located.	• All versions are available upon request • However, over years, detailed material would be condensed, i.e., keep the deliverable but not the versions of the file, not necessary any more (e.g., after 1 year)

Analogy to human memory

working memory & short-term memory	working memory to medium-term memory currently activated episodic and semantic memory	working memory & long-term memory, episodic and semantic memory	long-term memory and life-time storage

Preservation

Preservation: Accessing User Files

- **SemanticFileExplorer (SFE) embedded in Windows**
  - Allows to annotate file with the PIMO
  - But they stay local on the device
- **PIMOCloud**
  - Cloud storage in the PIMO Server
  - Includes versioning, syncing, sharing of files wherever they are on the devices
- **Enables Preservation on PIMO Server**
  - Files in the cloud are accessible
  - BUT: user's local files are not if they are not explicitly uploaded or located in a sync-to-PIMOCloud folder
- **Solution to preserve all relevant user files**
  - SFE & PIMOCloud allow to preserve a locally stored user file
  - If the server requests preservation of an file under PIMO control (either annotated or in a cloud sync folder)
  - The file is uploaded for preservation
  - *If preservation policies will allow to preserve files under PIMO control and not in the PIMO cloud*
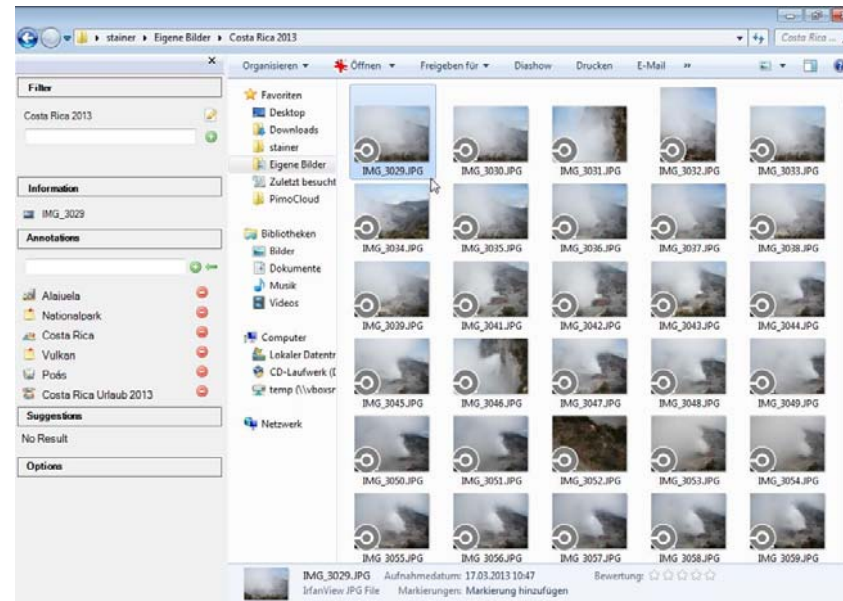
**Costa Rica photos on Stainer's computer
(only annotated not in the cloud nor preserved)**

PIMOCloud: File icon overlays show status
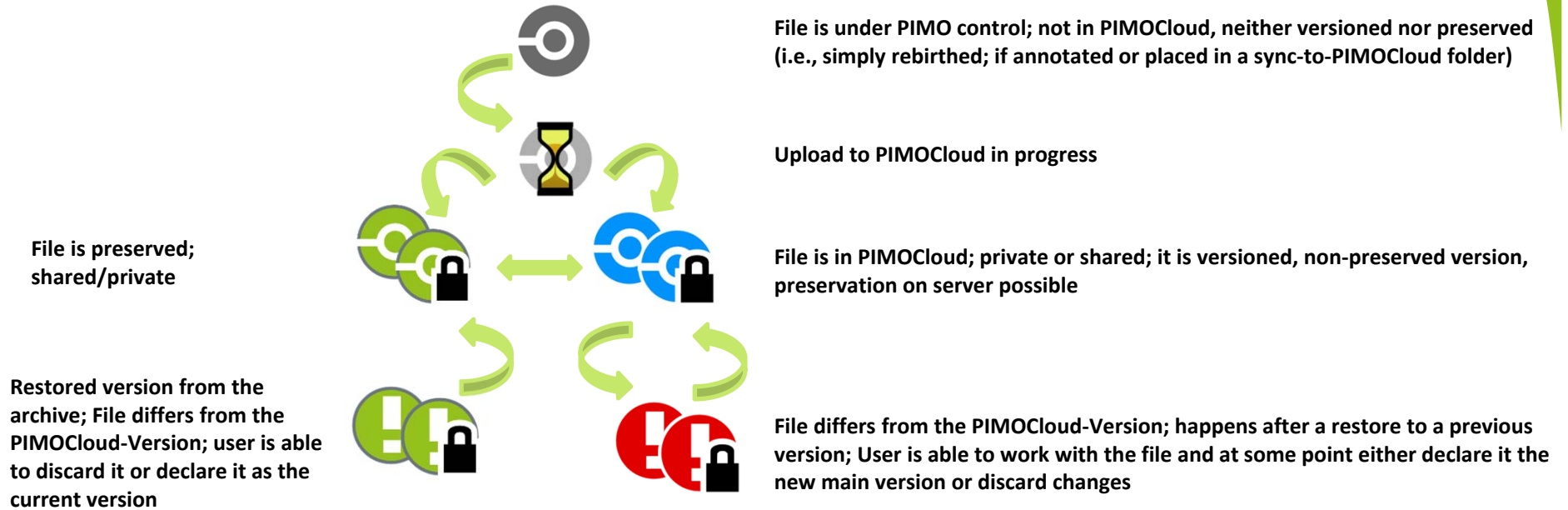
File is under PIMO control; not in PIMOCloud, neither versioned nor preserved (i.e., simply rebirthed; if annotated or placed in a sync-to-PIMOCloud folder)

Upload to PIMOCloud in progress

File is preserved; shared/private

File is in PIMOCloud; private or shared; it is versioned, non-preserved version, preservation on server possible

Restored version from the archive; File differs from the PIMOCloud-Version; user is able to discard it or declare it as the current version

File differs from the PIMOCloud-Version; happens after a restore to a previous version; User is able to work with the file and at some point either declare it the new main version or discard changes

Image is in PIMOCloud; private; it is versioned, preservation on server possible

Preservation with PIMOCloud

◆ First:
SemanticFileExplorer
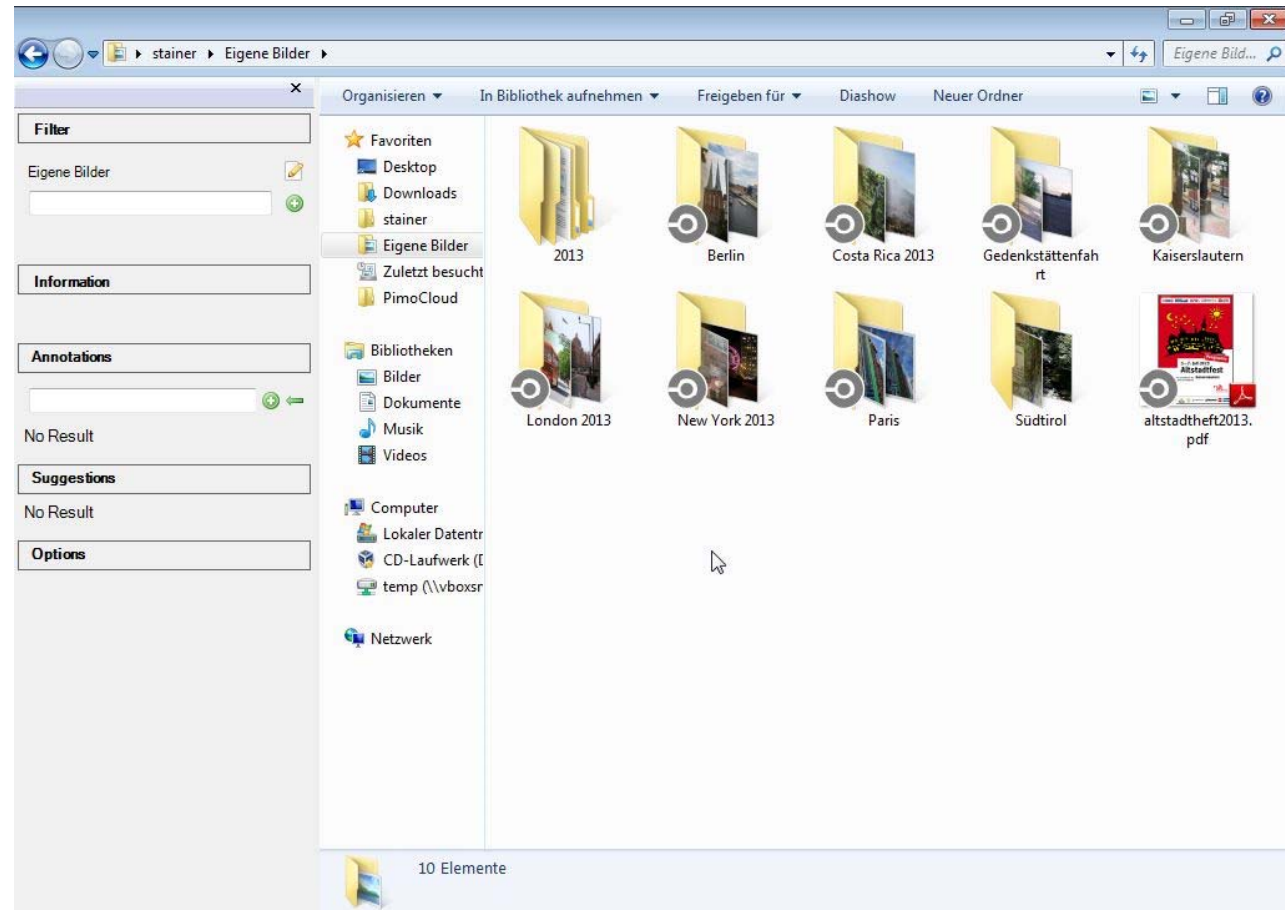
SemanticFileExplorer as sidebar and extension in Windows Explorer

Preservation with PIMOCloud

◆ Example: Costa Rica Journey: manual preservation of a photo
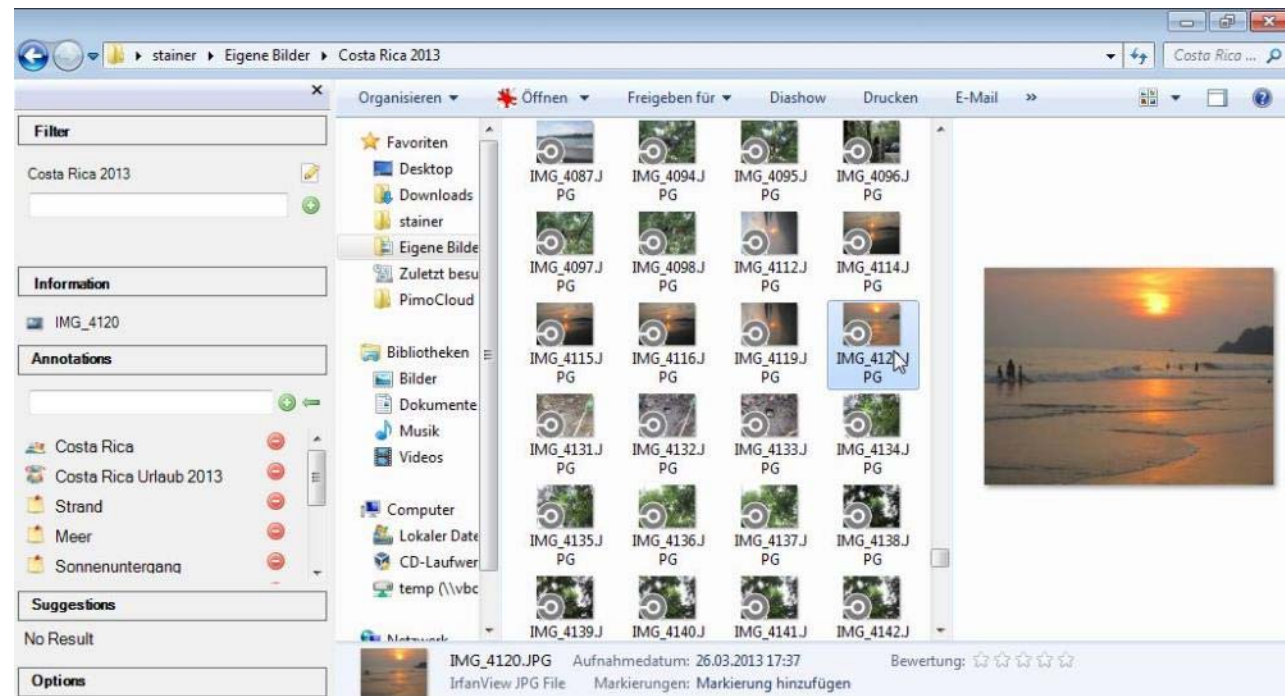
File is annotated but resides only on the local computer

Preservation with PIMOCloud

◆ This preservation can be trigger by the user explicitly

◆ However, the SemanticFileExplorer & PIMOCloud enable to preserve annotated files on request by the server

◆ If preservation value (PV) indicates this and preservation policy allows to preserve local files which are not in the cloud
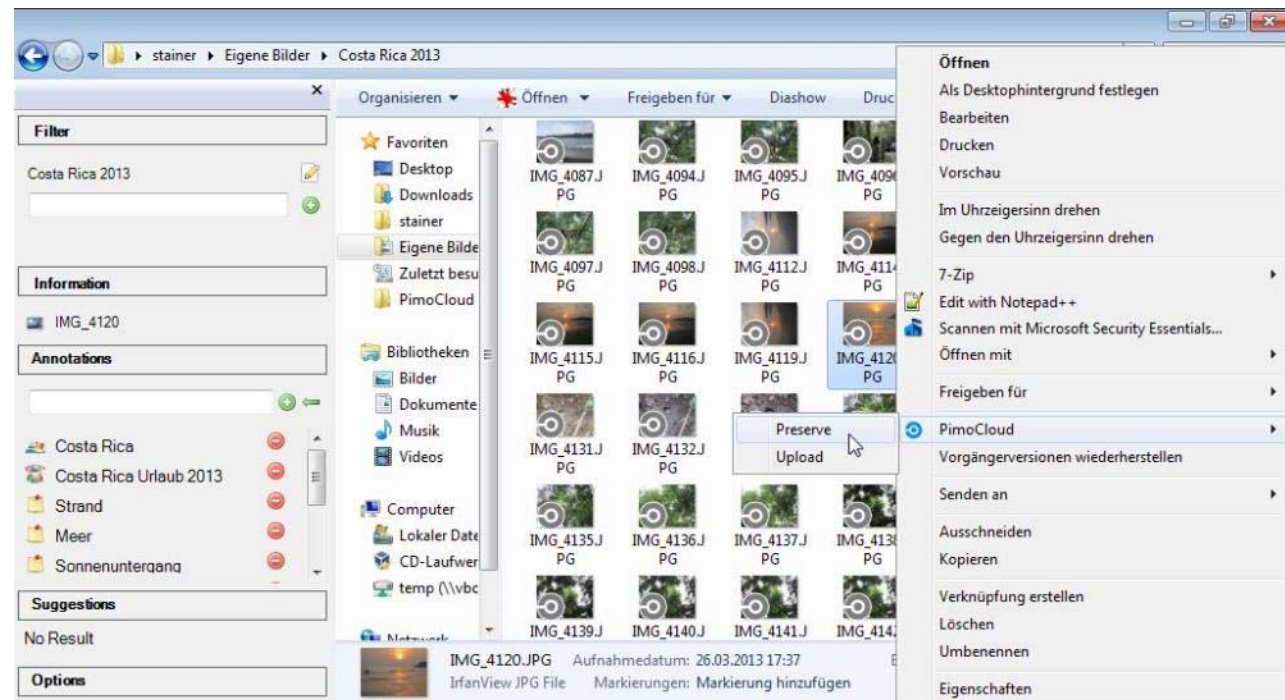
Manual preservation of one file via context menu

Preservation with PIMOCloud

◆ The file is handed over to the preservation process in the PoF framework

◆ Context from the PIMO such as the annotation of the file is added as metadata in the preservation process.
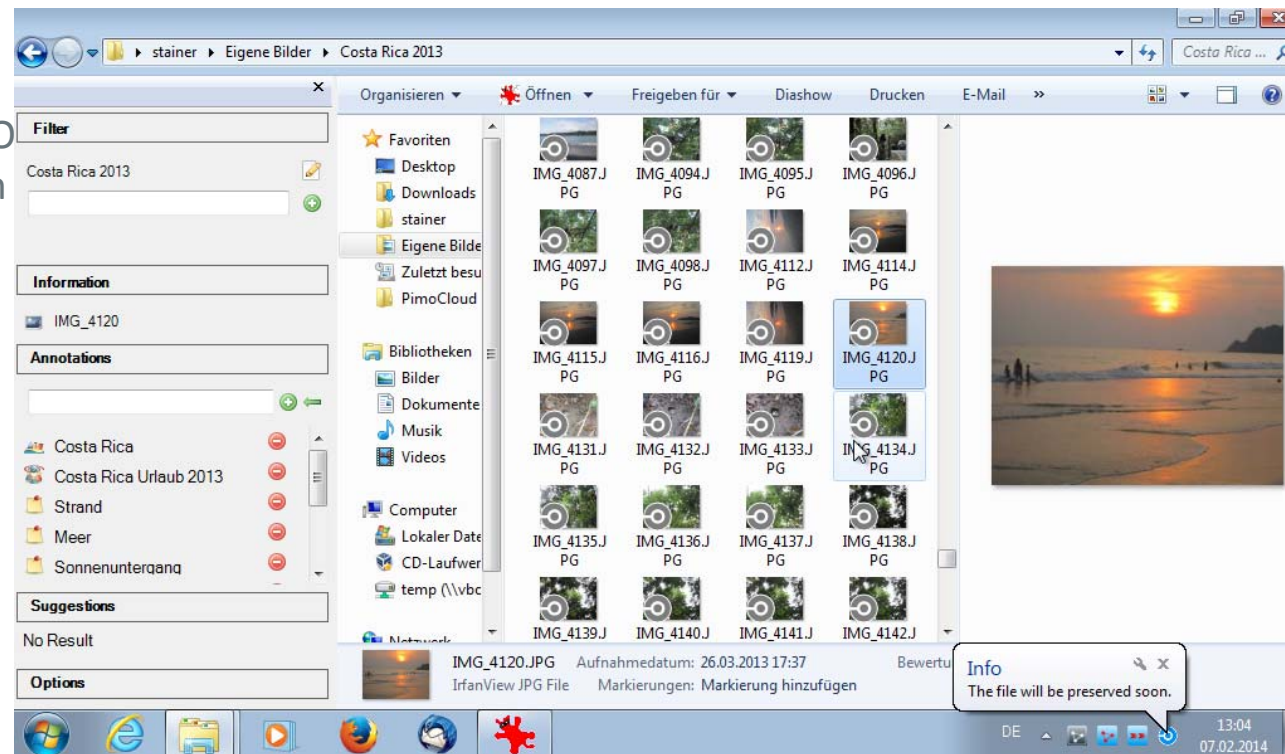
The preservation request is put in a queue and uploaded if possible.

Preservation with PIMOCloud
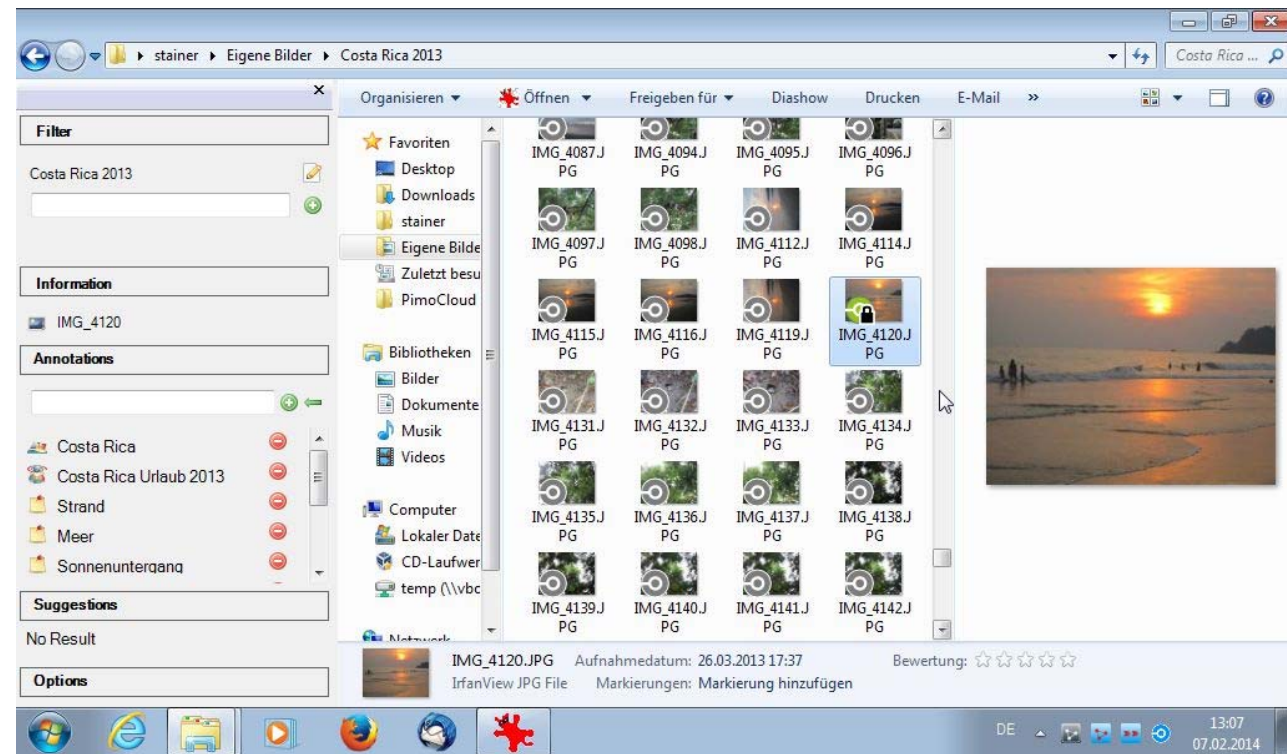
Green ForgetIT-icon shows this very file is preserved

Preservation with PIMOCloud
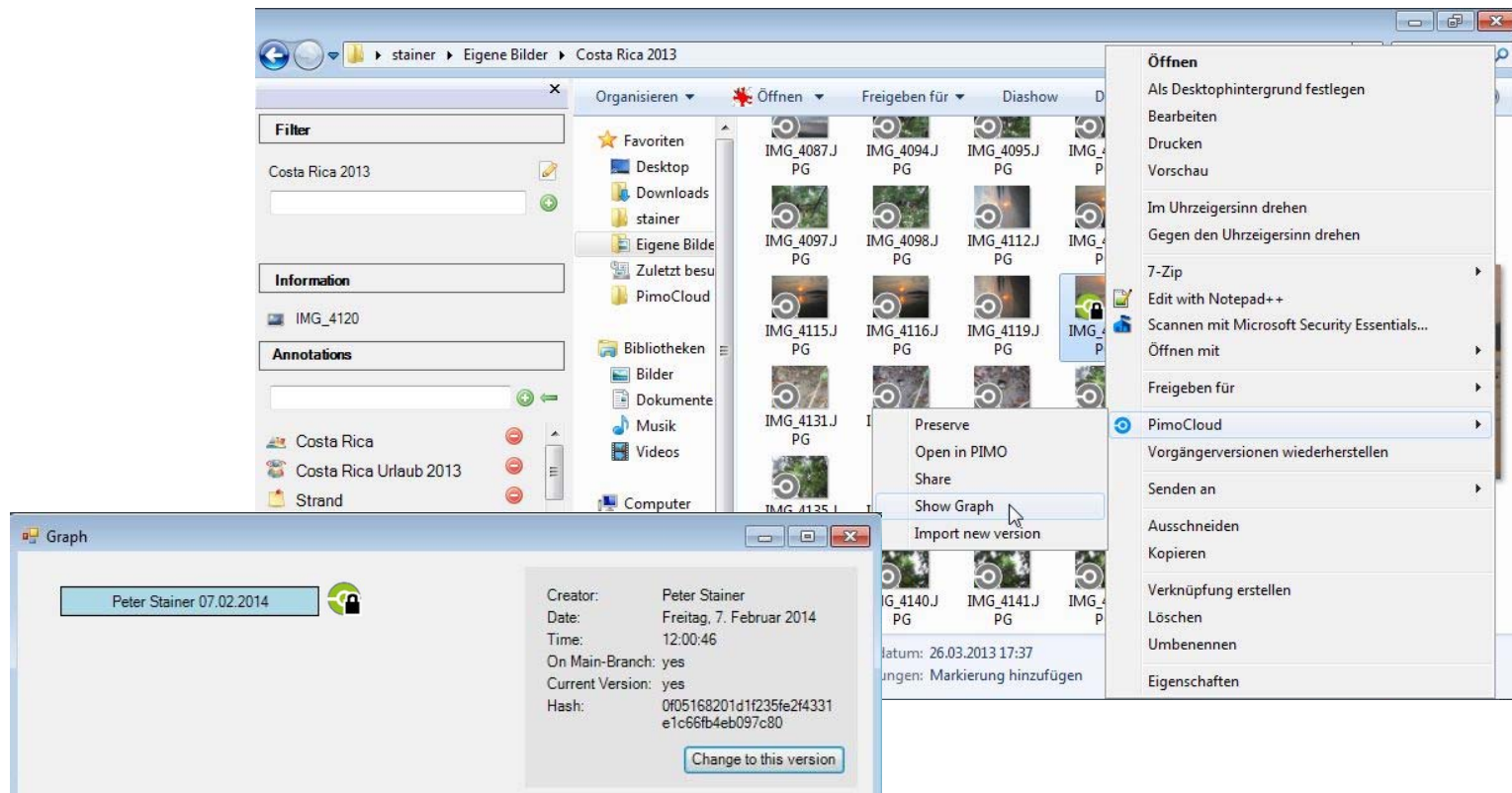
Version information

Preservation with PIMOCloud

◆ Now Peter manipulates
the local file
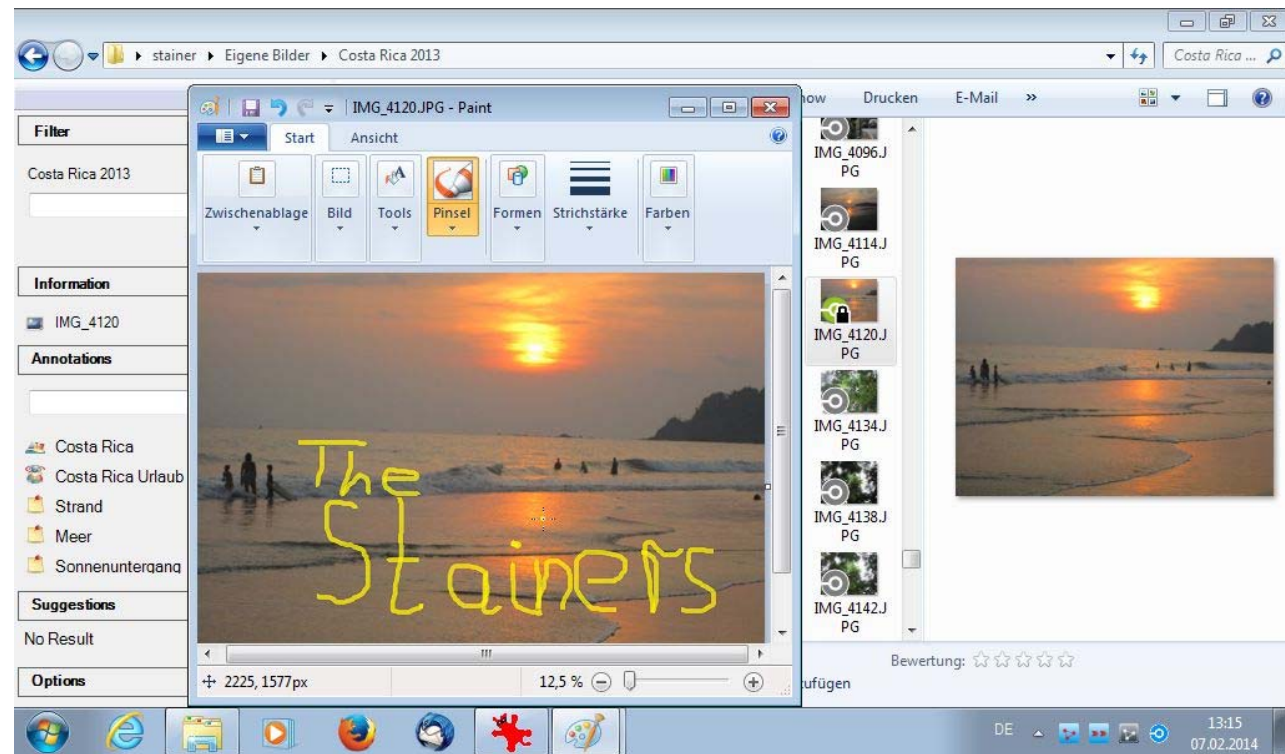
**Changing the file causes a change in the version in the cloud
(but not automatically in the archive)**

Preservation with PIMOCloud

Inspect version graph

Restore archived version

Preservation with PIMOCloud
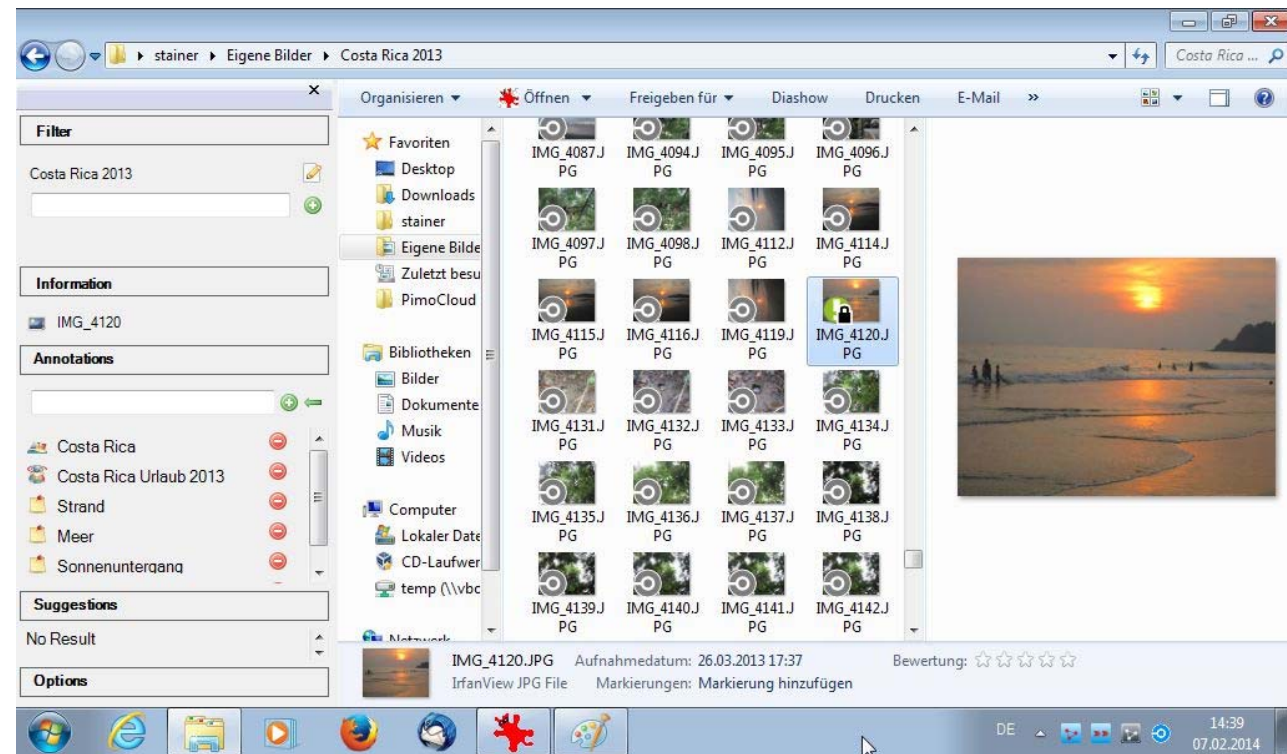
Green ForgetIT icon which exclamation mark
shows: this is the restored file which differs from
the newest version in the cloud storage

Preservation with PIMOCloud

- Users can declare how to proceed with the restored file
- Keep it, discard it or use this as the new main version from now on
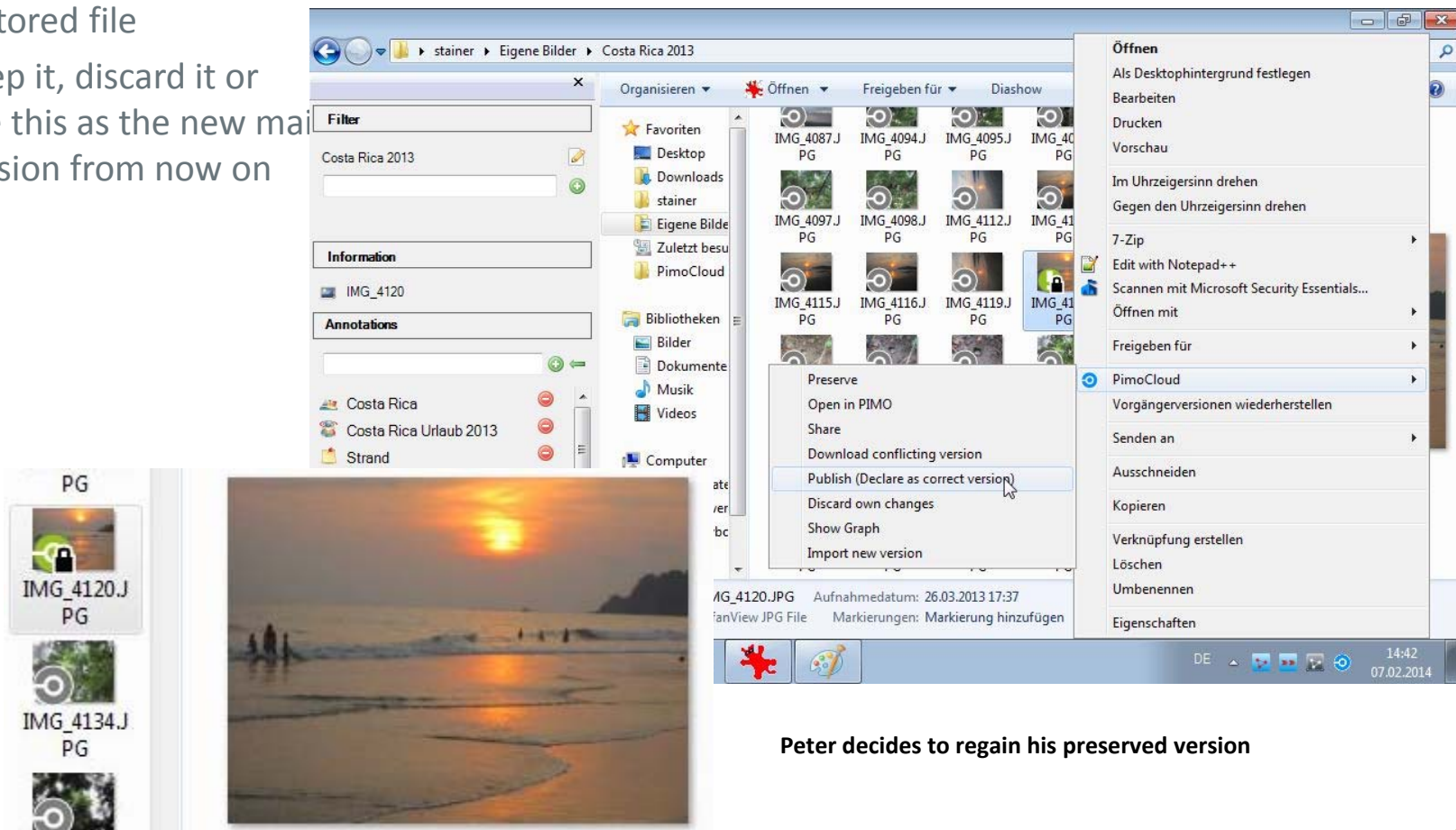
Peter decides to regain his preserved version

Forgetting

Forgetting with PIMOCloud

- Example: some collected files of the Stainer's Costa Rica Journey drop in memory buoyancy
  - Timetable and fares of buses
  - Only required during the travel
  - Other files such as maps were accessed after the travel
- Now the system informs the user of an upcoming forgetting act
  - This example shows an explicit request to show new file to be forgotten and a confirmation dialog
  - This is also possible to show up on certain time intervals
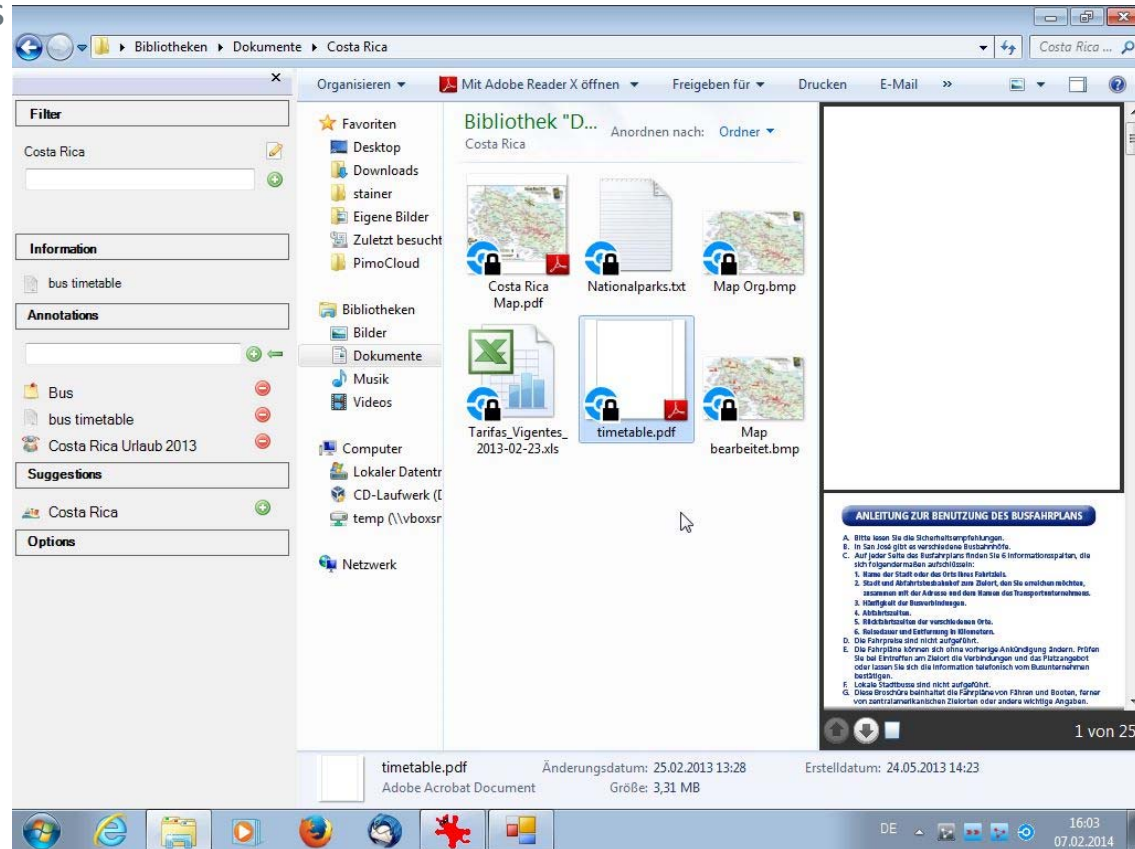
Forgetting with PIMOCloud
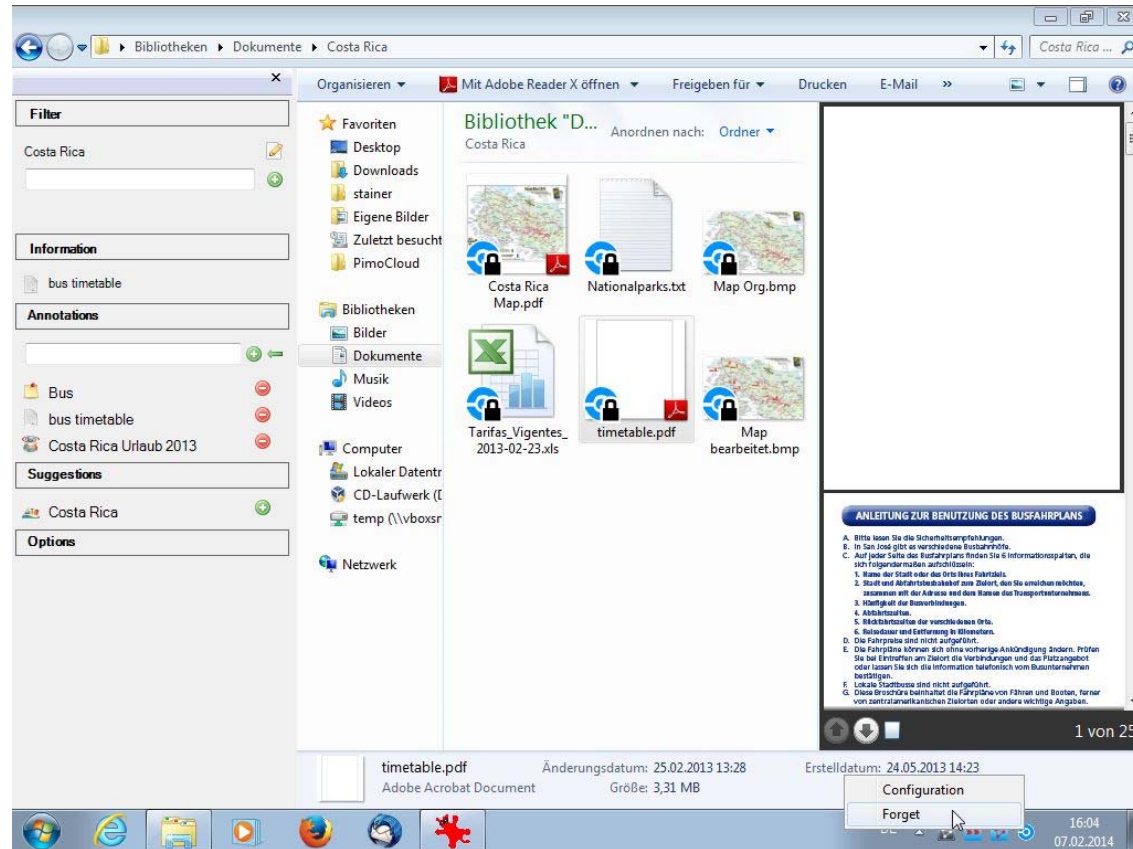
Show files to be forgotten (and trigger the forgetting process on the ocmputer)

Forgetting with PIMOCloud
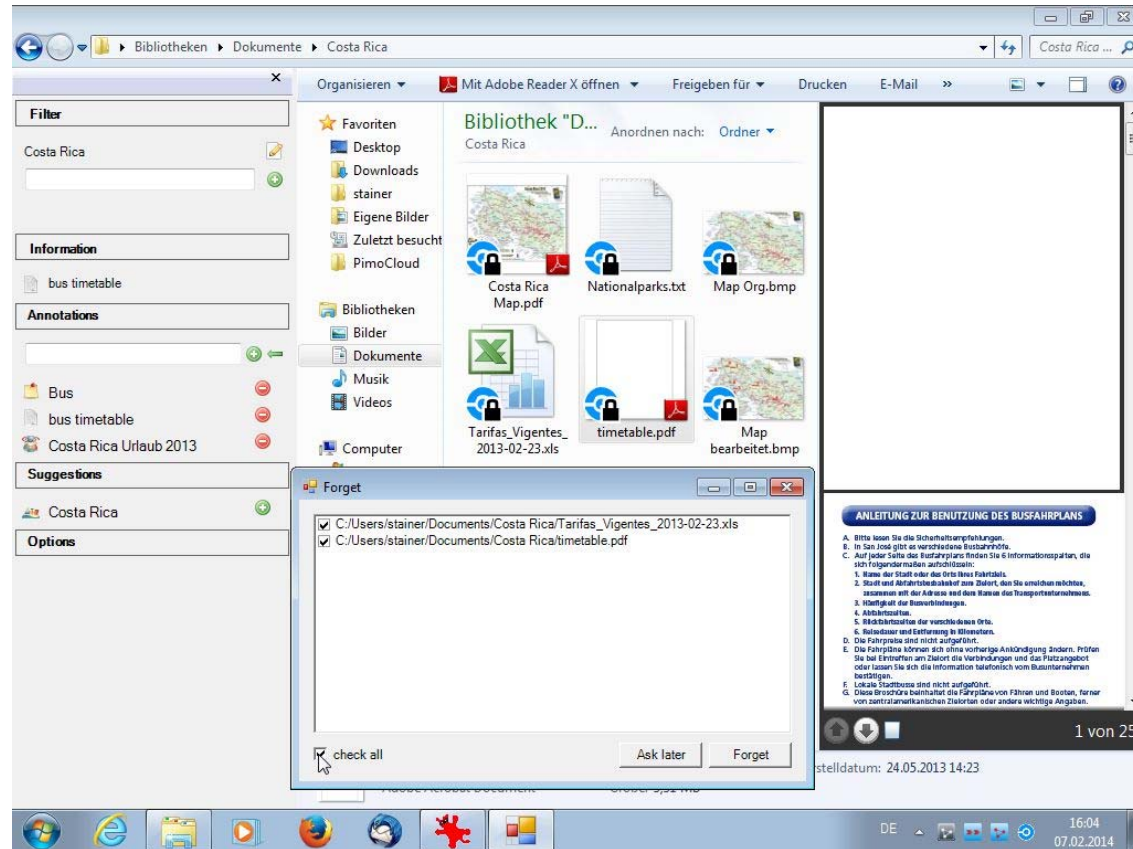
Accept all to be removed from the computer

Forgetting with PIMOCloud
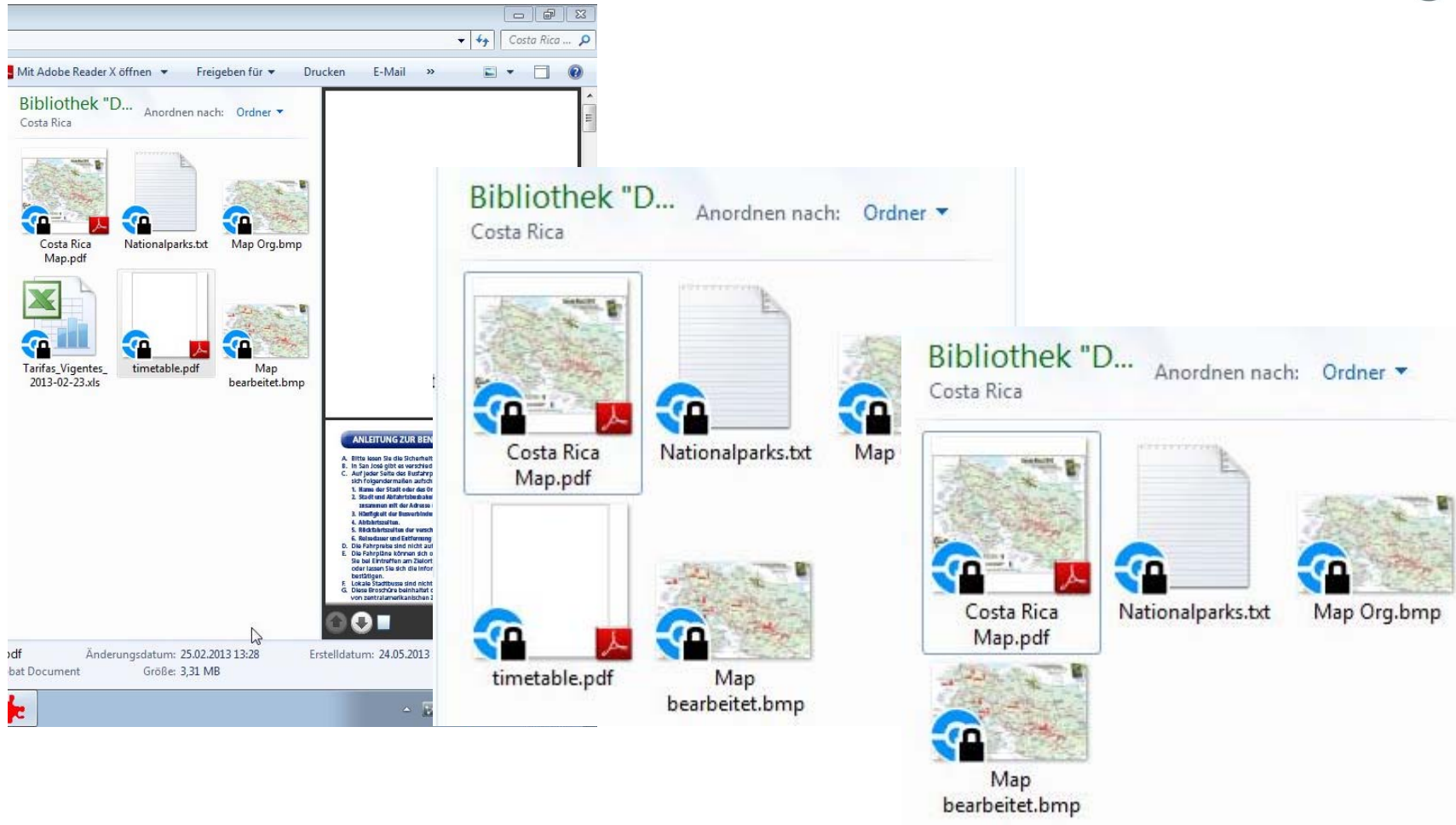
The files timetable.pdf and Tarifas_...xls get removed from the computer

Restoring from the archive

Restoring forgotten files with PIMOCloud
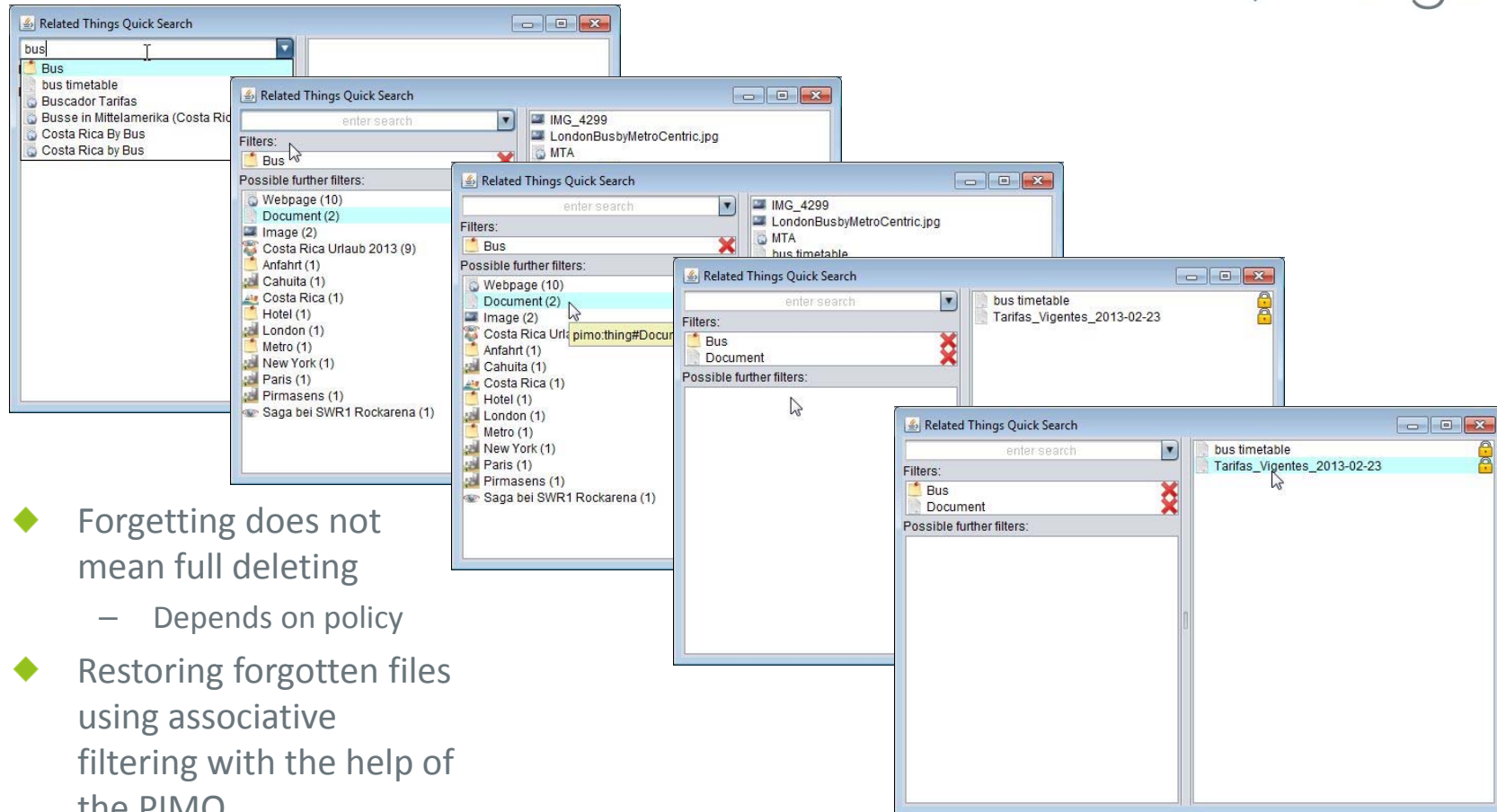
- ◆ Forgetting does not mean full deleting
  - – Depends on policy
- ◆ Restoring forgotten files using associative filtering with the help of the PIMO

The file is found now access it….

Restoring forgotten files with PIMOCloud
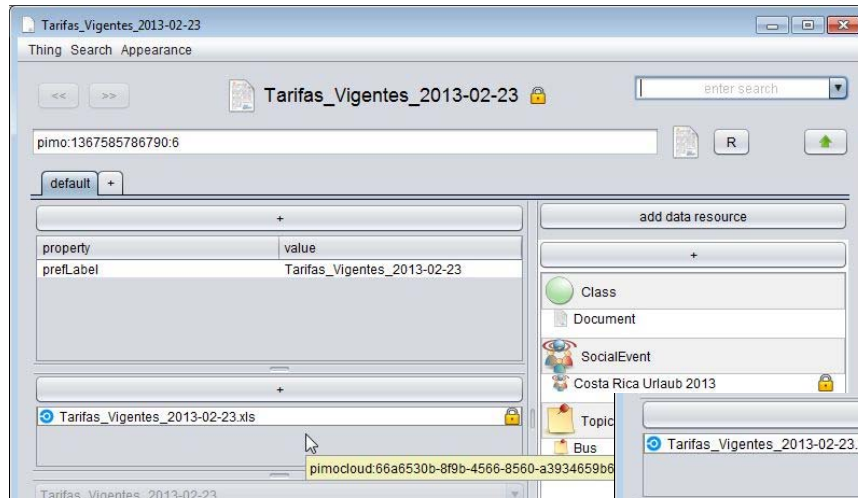
The thing "Tarifas..": File is in the cloud but no local version (this technically looking interface will be replaced by a HTML5 GUI)
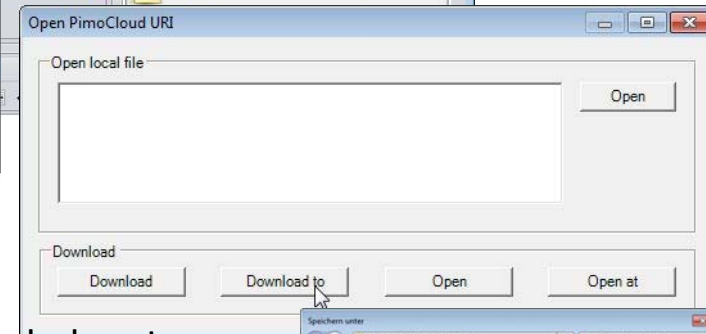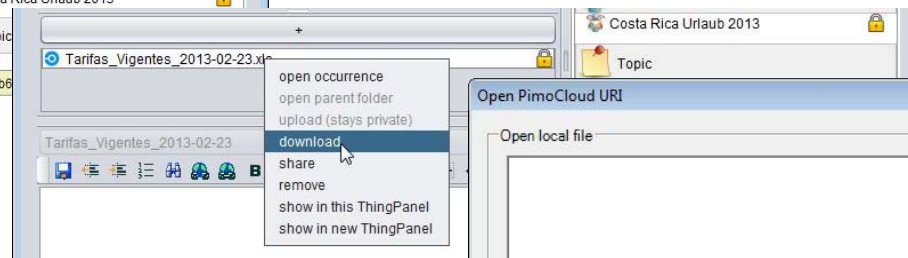
Various possibilities to download, e.g., to different places or just to open it

Restoring forgotten files with PIMOCloud

File is restored on the local computer

Forgetting in the PIMO GUI

Forgetting: Using Memory Buoyancy in the GUI to hide things to be forgotten

- GUI based on HTML5 for accessing the PIMO
  - Future GUI for PIMO
  - Modular to extend
  - Caching for offline access
  - Same interface for mobile and desktop possible (reduction of cognitive complexity for understanding the GUI)
- Services:
  - Working with PIMO
  - Searching & Browsing
  - Recent things
  - Accessing resources
  - Activity feed of others
  - (Ontology browsing)
- PIMO already extended with value for memory buoyancy for each resource
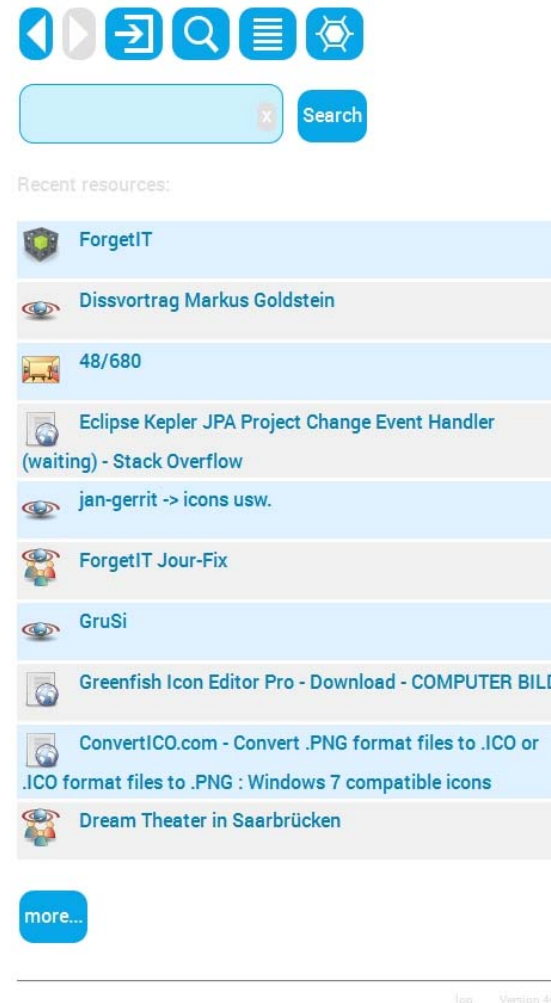
Recent view on an individual's PIMO from the DFKI PIMO instance.

Forgetting: Using Memory Buoyancy in the GUI

◆ **As mock-up, GUI extended by using memory buoyancy to hide things**
  – Example uses a simple computation based on recent access in a time interval
  – Incorporating WP3 MB computation will increase the accuracy

◆ **Example: View on the Project ForgetIT**
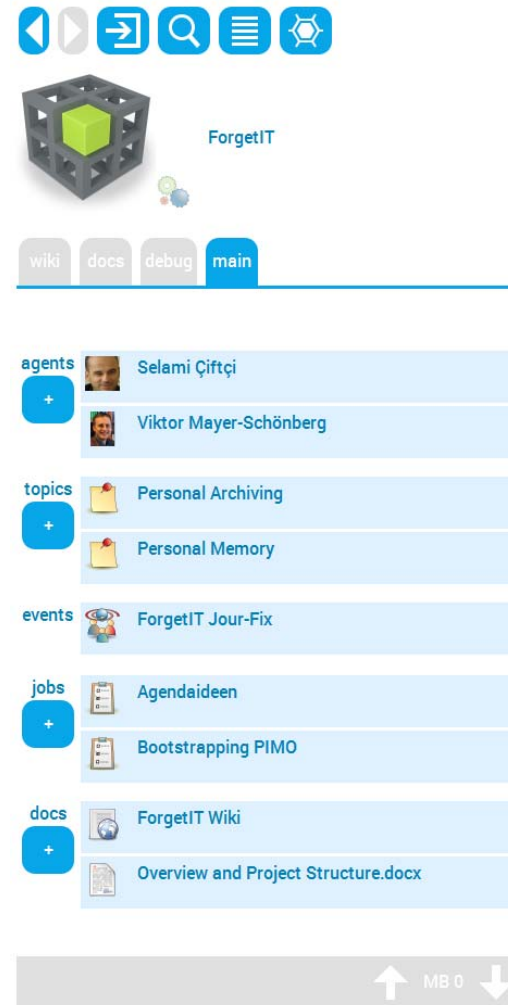
**View on ForgetIT with MB 0 (i.e., see everything)
Lower grey part allows to interact with this
threshold: lowering or raising the threshold.**

Forgetting: Using Memory Buoyancy in the GUI

- ◆ Increasing the memory buoyancy (MB) threshold leads to hiding concepts with lower MB
  - We plan to go in steps, i.e., the users won't see real values.

- ◆ If anything is hidden, the grey part will indicate this (show/hide forgotten)

- ◆ Allows for accessing the PIMO with those things presumably most relevant in the user's mental model
  - i.e., prevents from being overwhelmed with irrelevant details accumulated over years/decades
  - However, retrieving forgotten things is still possible
  - The "show forgotten" indicator mimics the human's "I know there was something"-feeling and allows to access it
  - In future implementations, forgotten things won't be retrieved in the normal view which will reduce the transferred data, e.g., on mobile devices

View on ForgetIT with MB 0 ,5 (i.e., see less).
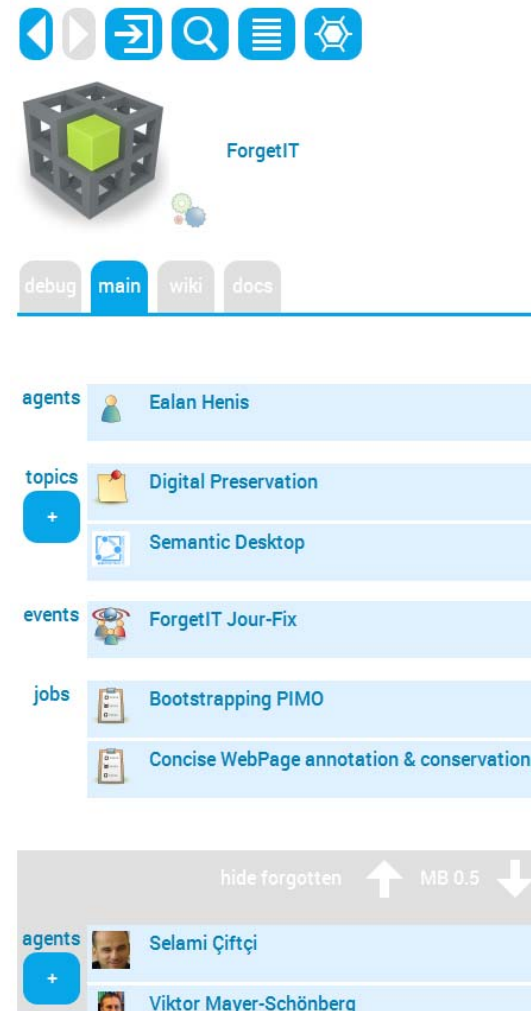
Forgetting: Using Memory Buoyancy in the GUI
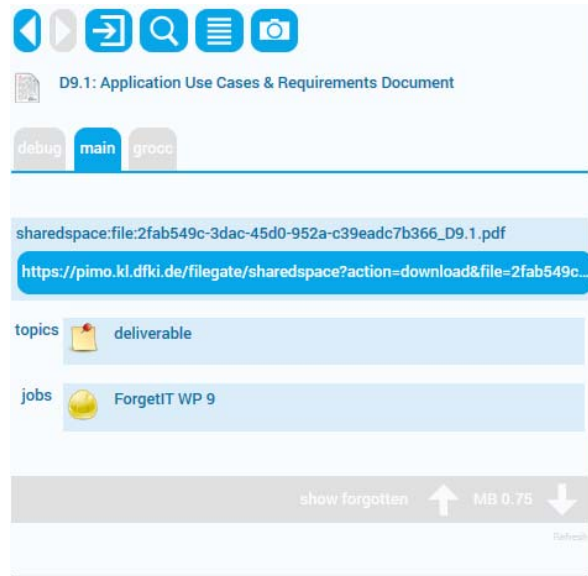
Another example: View on D9.1 with MB 0 ,75.
Things with higher MB such as the workpackage "ForgetIT WP 9" are visible (remember, the computation for the mock-up is not yet based on WP3)

Right figure: Hidden things are shown. Old tasks for writing the D9.1 are hidden. A further possibility here is either to rank according to MB or to go on iteratively and only show those up to MB 0,5.
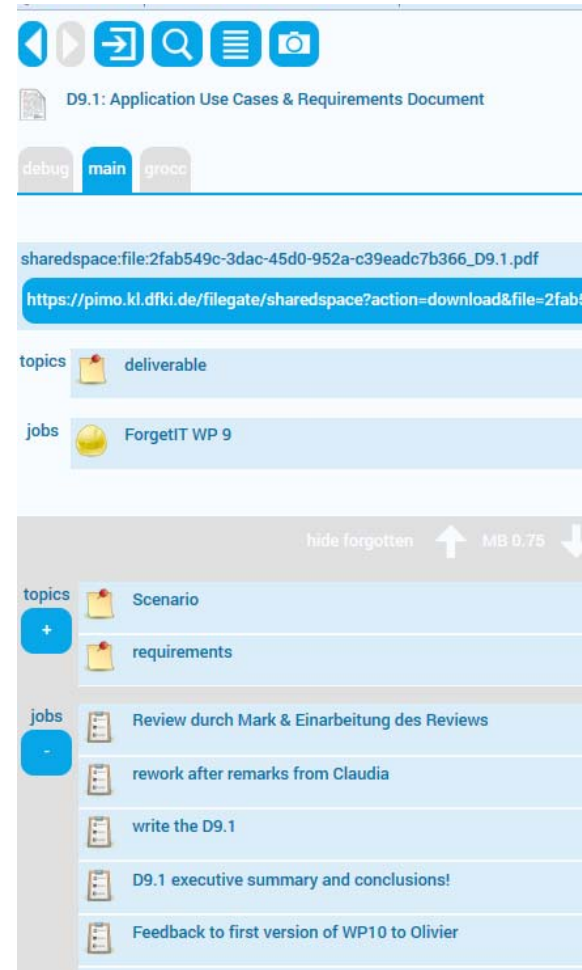
PIMO Reminiscence

PIMO Reminiscence - Photo Organization

◆ Challenge: How to motivate people to provide more information on their photos?

– Relevancy of photos

– Context information on life situations

– PIMO bootstrapping

◆ Provide better experience!

– Life situations provide a nice specific view on a life situation such as marriage, birth, graduation, travel, etc.

– Support in identifying important & redundant photos by PoF services such as quality assessment

◆ Derive evidences for preservation value

PIMO Reminiscence
Photo Collection

Name _____

Password _____

Login

PIMORE: PIMO-based Photo Organization

◆ **Desktop client**
  – HTML5-based GUI
  – With TideSDK executables for Windows & Mac

◆ **Photo Organization app uses PIMO**
  – and soon PIMOCloud
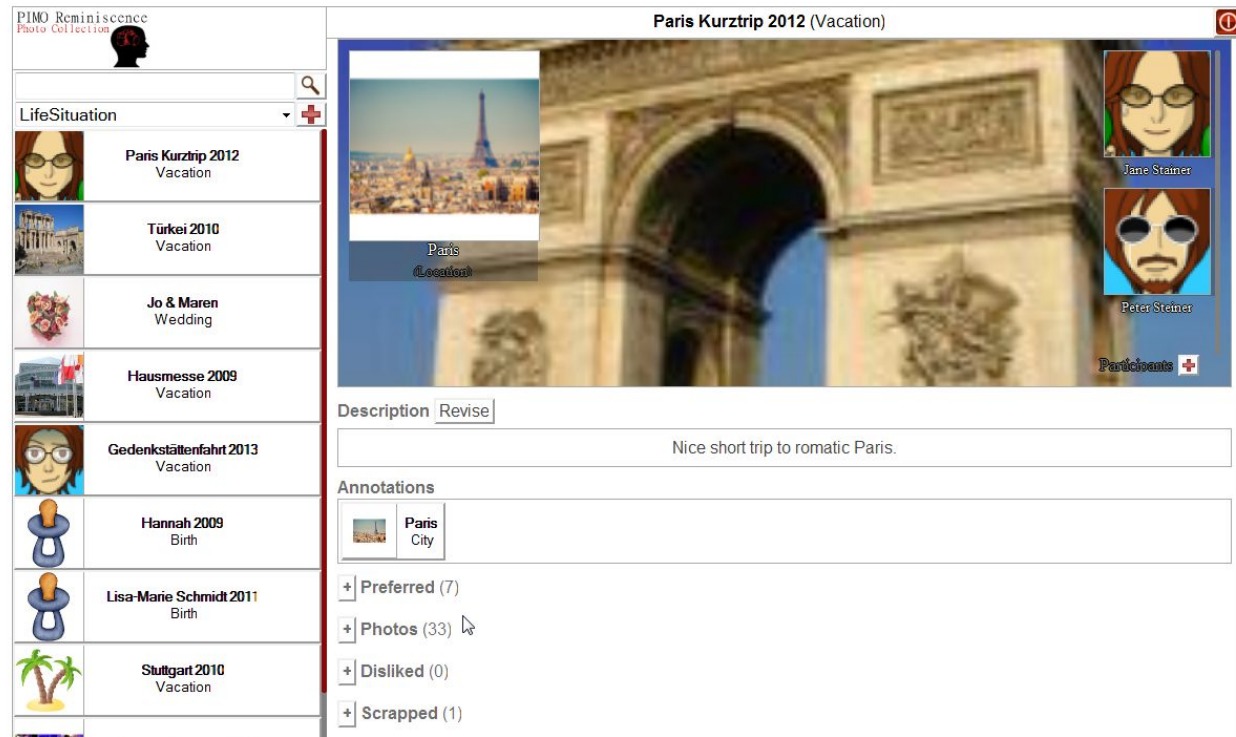
**Overview on recently accessed life situations
and one vacation in the overview**

PIMORE: Creating a life situation

Choosing a folder with files and creating life situation

More life situations will follow

PIMORE: PIMO-based Photo Organization

◆ ForgetIT

- ◆ A life situation is like a photo album allowing to design this special event with photos

- ◆ And telling a bit more or location, participants an roles
  - – E.g., child, bride, groom, etc.

- ◆ Results in an attractive "cover page" for the life situations

- ◆ Gives us evidences

First the life situation cover page is empty. Automated services could already provide input such as location geo-location), persons (face detection), …

PIMORE: PIMO-based Photo Organization

◆ Adding details such as persons or location.
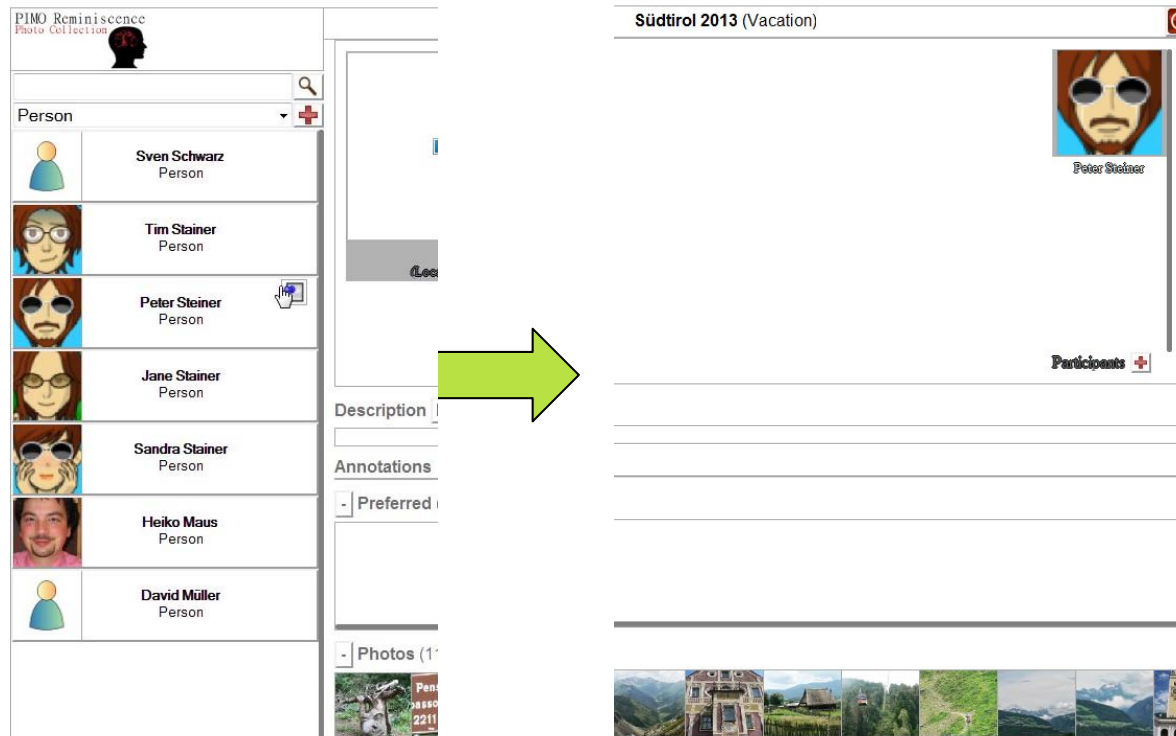
Adding participants using the PIMO.

PIMORE: PIMO-based Photo Organization

◆ Selecting nice photo for background

Adding scenery photos for the cover page

PIMORE: PIMO-based Photo Organization

Selecting favorite photos via Drag&Drop…

PIMORE: PIMO-based Photo Organization

◆ Different assignments of photo will lead to

◆ Different preservation value and memory buoyancy

◆ Condensation candidates of event

◆ Availability on devices

◆ Support by Quality assessment of WP4 and contextualization of WP6

Further, disliked photos (don't delete but don't show) and photos to delete (here called scrapped, not in the view)

PIMORE: PIMO-based Photo Organization
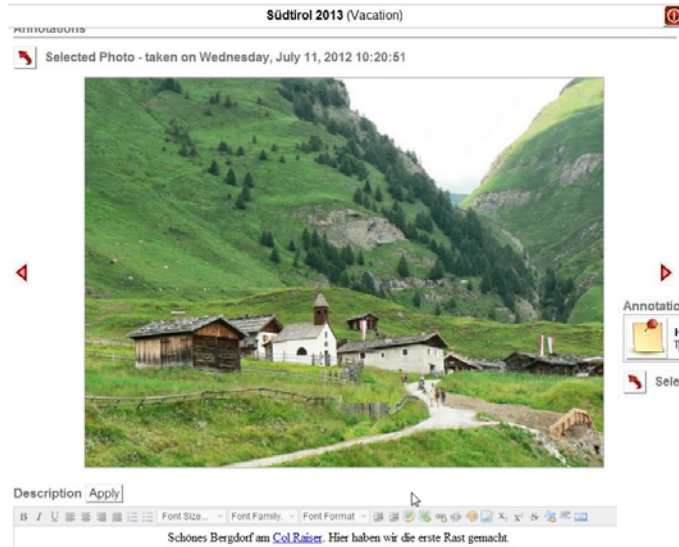
Descriptions to photos. Entities are recognized...
(soon integration of seed from WP4)

Result in annotations to photos.
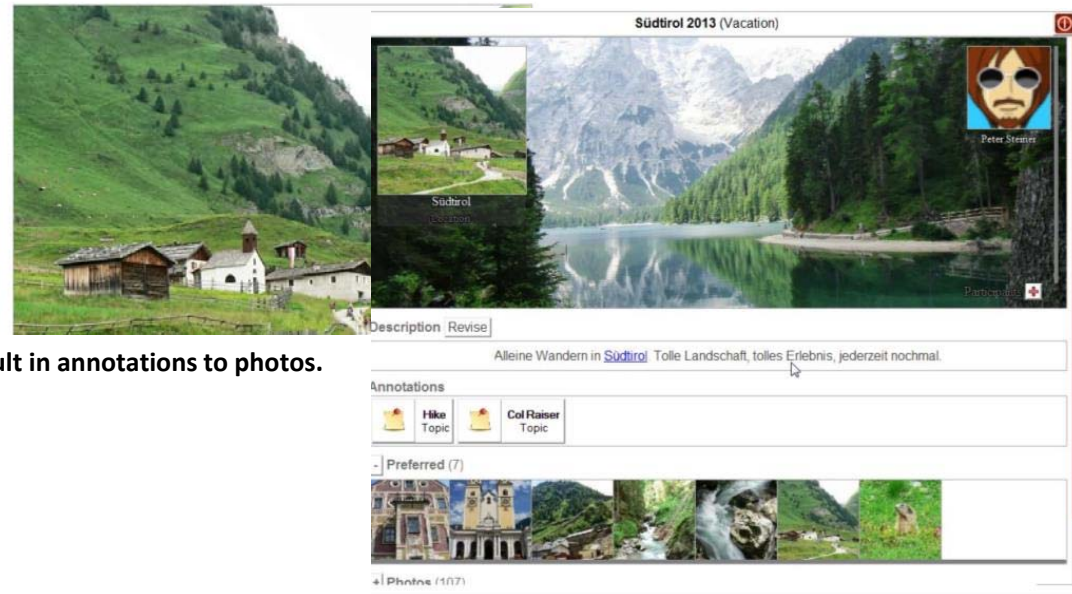
Annotations are propagated to event.

Using Services from PoF

Image Quality
Assessment (WP4)

- ◆ Reducing effort to find the best quality photos
- ◆ Contributes to preservation value

Südtirol 2013 (Vacation)

Annotations

Selected Photo - taken on Wednesday, July 11, 2012 10:20:51

Quality Assessment

TotalQuality	0.186417
Noise	0.736131
Darkness	0.906521
Contrast	0.982914
Blur	0.128024

Quality Assessment from PoF

- Support in finding the best photo out of a series of shots
- Early indicators for preservation value and memory buoyancy
- Also a benefit for users for actually using PoF.

Finding the best photo in the series of the Costa Rica volcano is a tedious task for users. This will be supported by PoF.

Searching support from PoF

◆ Searching support for photo collections even if no annotation is given

Images subset retrieved for Beach

See all Beach images

PIMORE: PIMO-based Photo Organization

◆ The use of the PIMO allows to see, manipulate, and access the data in the whole Semantic desktop infrastructure
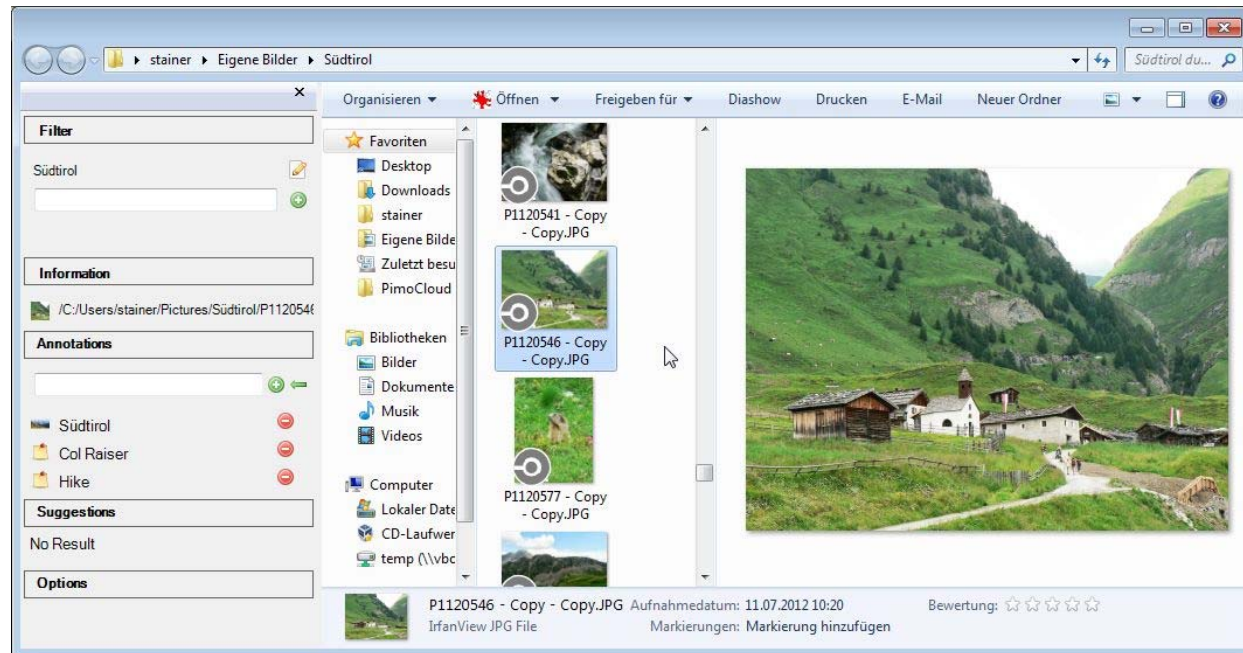
The photo annotated in PIMORE keeps the annotations in the SemanticFileExplorer

PIMORE: PIMO-based Photo Organization

Quick view on more details on request:
Starting from the condensed event, over favorites, to all photos …

More examples for layouts
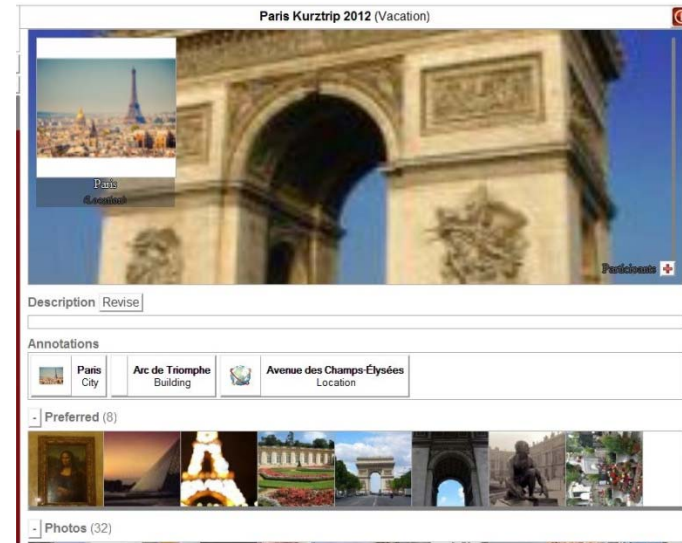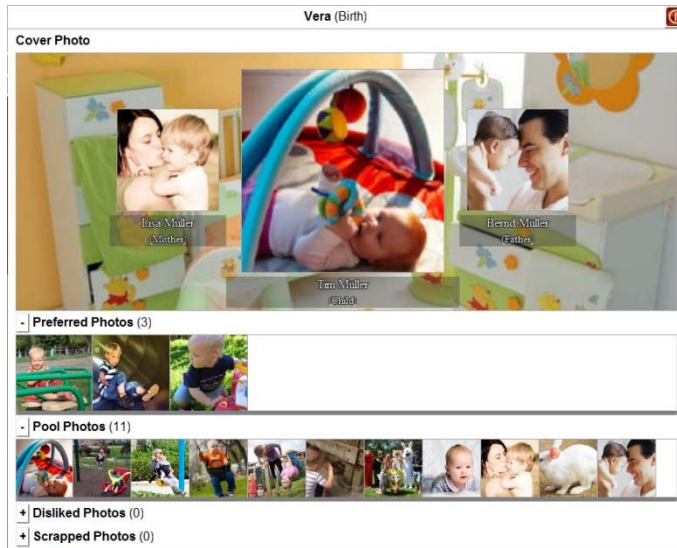
Personal Information Management with the PIMO

FireTag: Tagging E-Mail with PIMO

- Plugin for Mozilla Thunderbird using the PIMO API
- Proposes tags for emails based of extracted PIMO entities in the mail body
- Shows annotated tags
- Infers tags from the thread
- Allows to open emails directly from PIMO-enabled applications
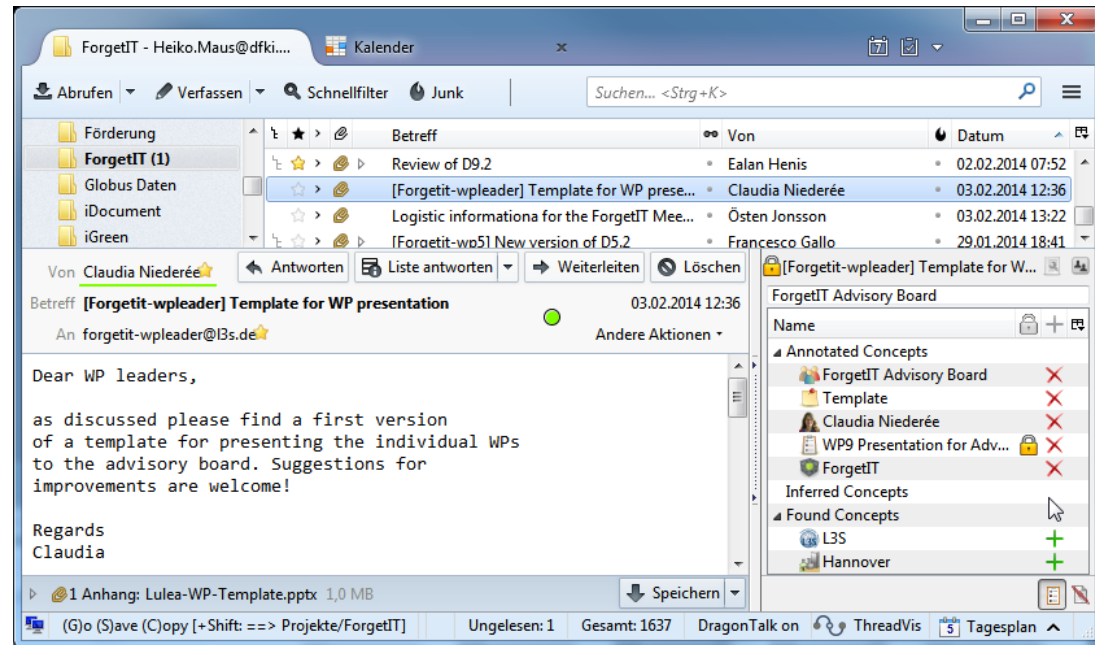
FireTag: annotated E-Mail (with group, topic, person. task, project) and further proposed concepts organization and location.
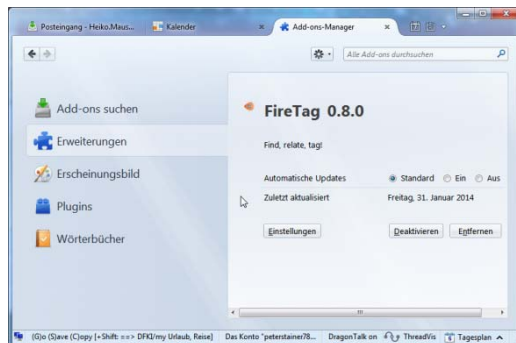
FireTag as easy-to-install Add-on in Thunderbird

FireTag: Tagging the the Browser

- Plugin for Mozilla Firefox using the PIMO API
- Proposes tags for webpages based of extracted PIMO entities in the mail body
- Shows tags of an already annotated webpage

FireTag: annotated webpage in Mozilla Firefox
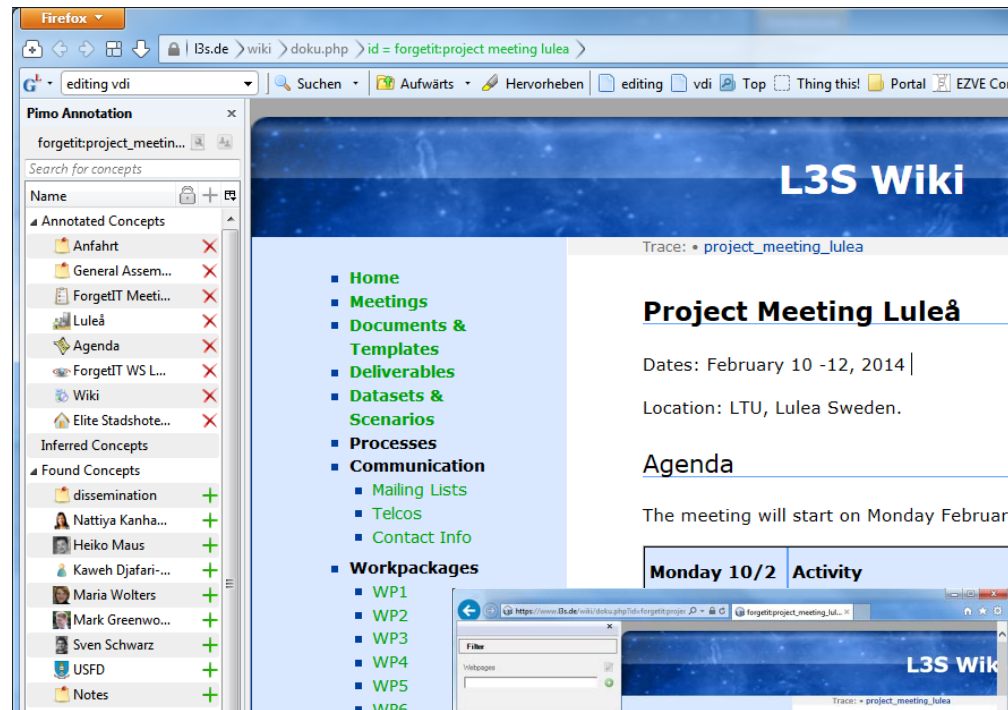
Annotated webpage in MS Internet Explorer
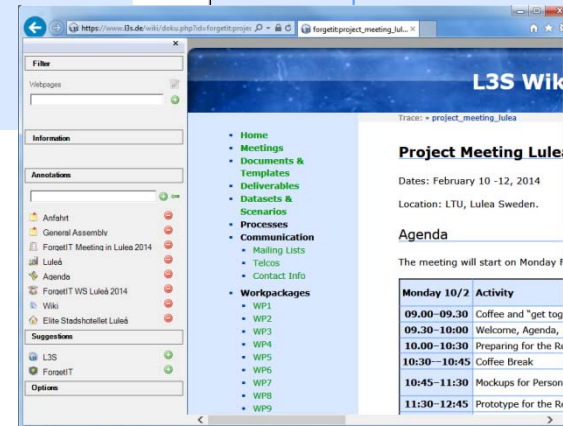
PIM: Tasks embedded in PIMO

◆ **Task Management for users embedded in PIMO**
  – Benefit for users
  – Provides evidences for activities, context for resources

◆ **Different UIs realized**
  – Desktop client
  – HTML5 client for mobile, browser

◆ **Light-weight approach**
  – Only task name required
  – Tasks and subtasks
  – Reminders
  – Notes, attachments
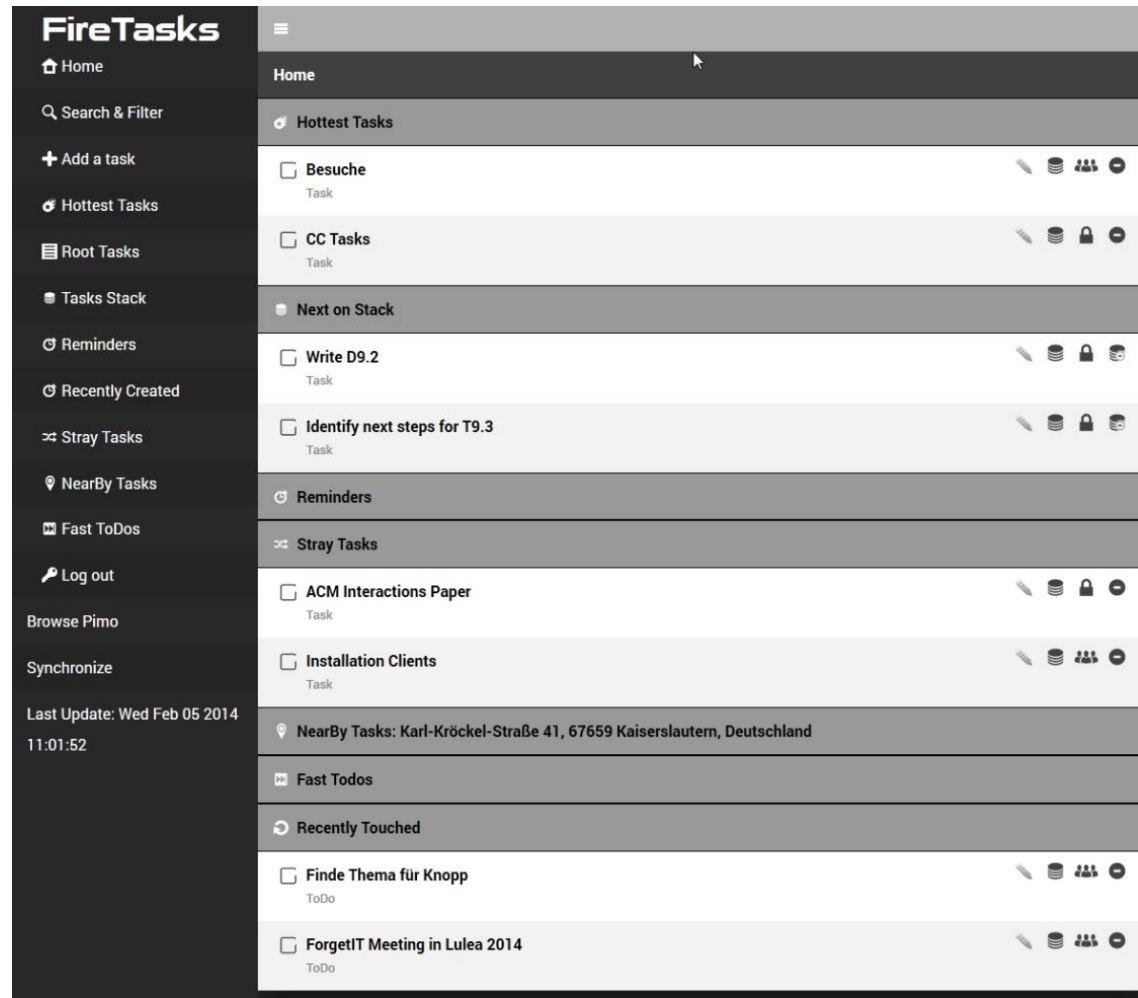
FireTasks: Task App Prototype in HTML5

◆ Home view shows different aspects of user's tasks

◆ quick overview & access

FireTasks: SmartViews

Several views possible such as:

- Recently touched
- "Hottest" tasks
  - Function of frequency in usage, location, location
  - Memory buoyancy will be included
- Tasks near current location
- Stray tasks
  - Neglected tasks

FireTasks

- Filter with PIMO concepts

FireTasks

- Filter with PIMO concepts

FireTasks

- **Accessing Task Information everywhere**
- **Annotations**
  - PIMO concepts (topics, persons, projects, …)
  - Resources (documents, images, emails, …)
- **Notes**

PIMO interconnects different apps

◆ Apps use the PIMO as common vocabulary of the user
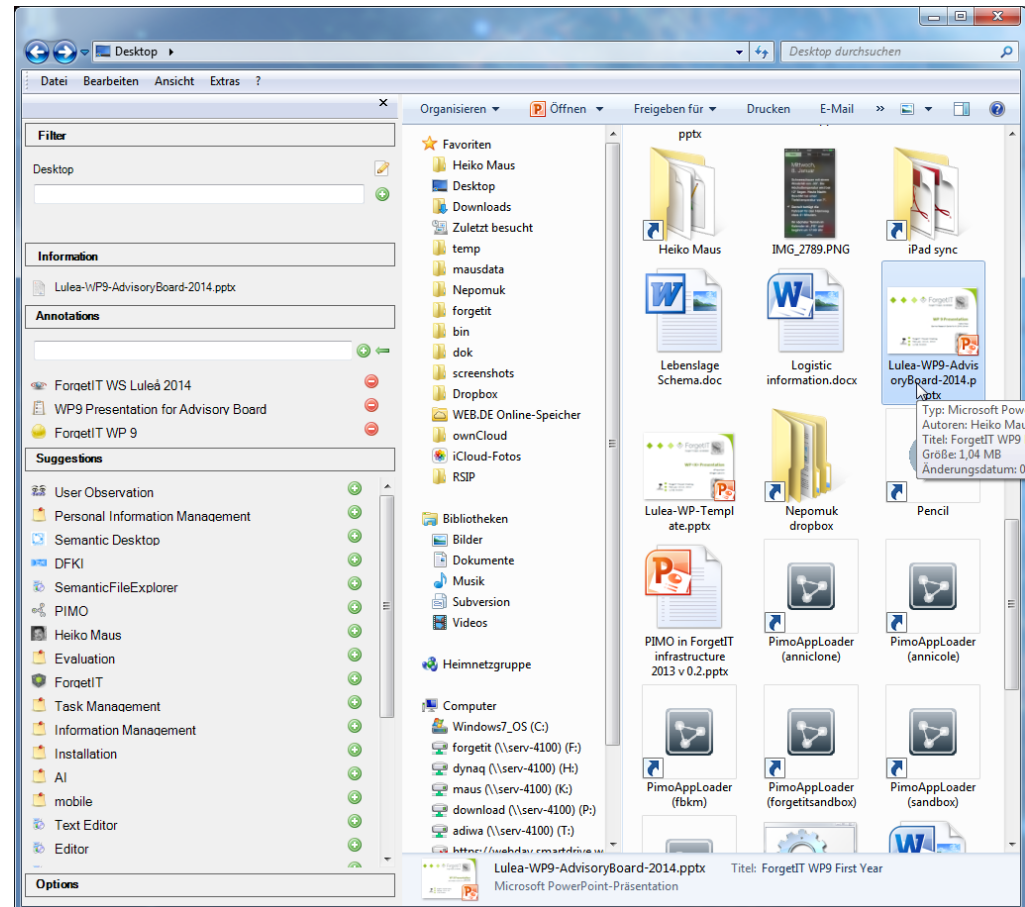
The Lulea slides from the FireTasks' example:
annotated with task in the SemanticFileExplorer

ConTask: Task Management Desktop Client

- Legacy Task Management prototype for desktop
- Part of the Semantic Desktop infrastructure
- Uses same task model of PIMO like FireTasks
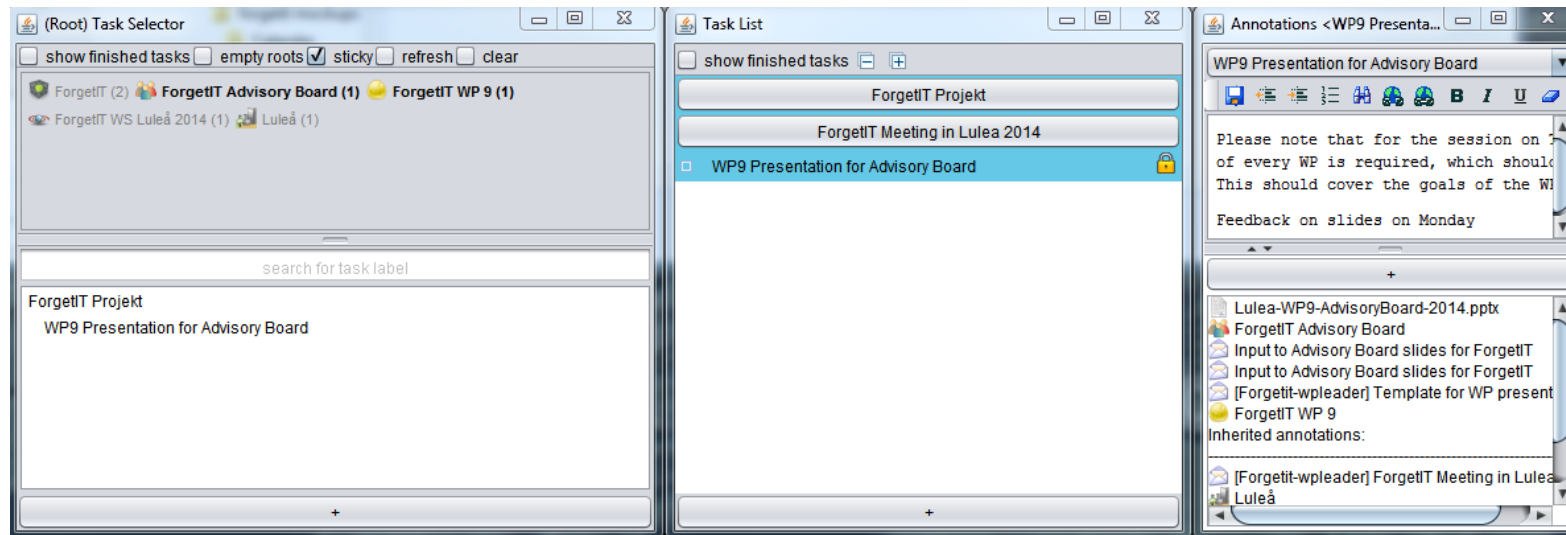
PIMOCal: CalDAV endpoint for events

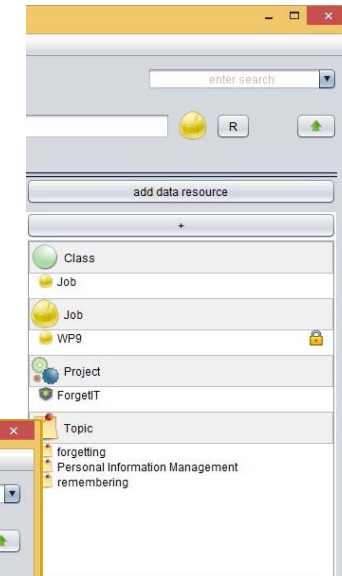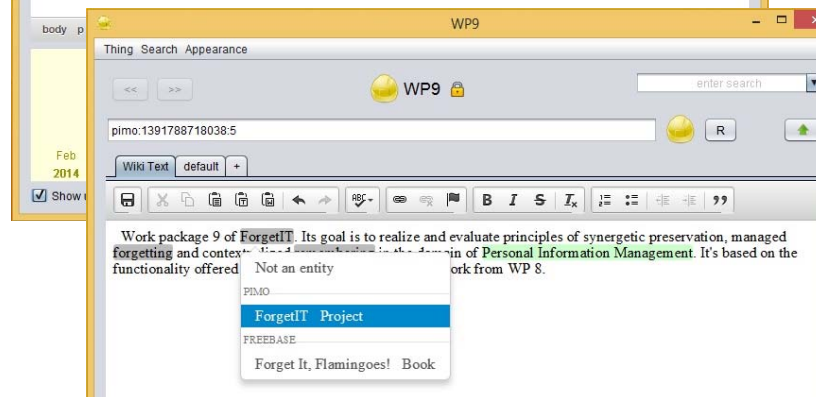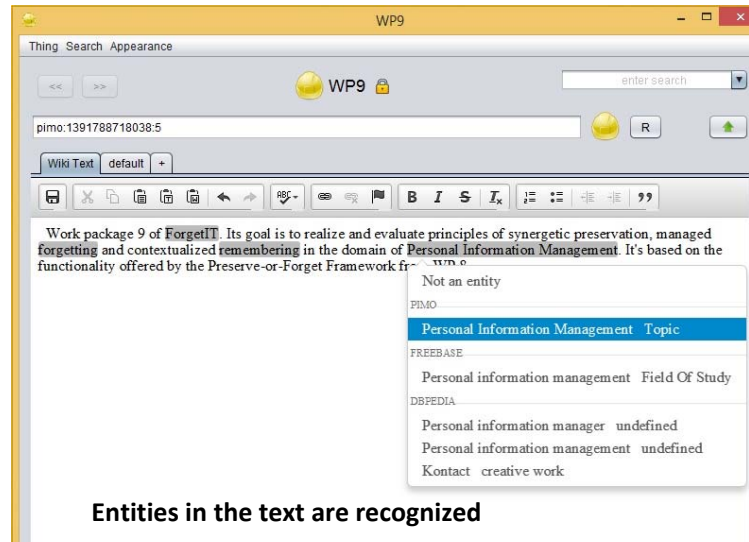**The Lulea WS event in the PIMO and as calendar event accessible via CalDAV (here in Thunderbird)**

Semantic Text composition with seed (WP4)

◆ Writing text is supported by identifying things from the PIMO and new concepts from Linked Open Data sources such as DBPedia and Freebase

◆ The note (and the thing it corresponds to) are annotated with the concepts confirmed by the user

◆ Instead of manual tagging

◆ Will be part in all places where text is written, e.g., in PIMORE

Entities in the text are recognized

Concepts are annotated

User can select the ones meant or create new concepts on-the-fly

PIMO Installation

◆ A HowTo and web-based installer available at
http://pimo.kl.dfki.de/bootstrap/en/indexEN.htm

PIMO on Desktop

- Various apps can be installed from webpage (drag&drop)
- Apps reside In Windows tray
- Easy Updates
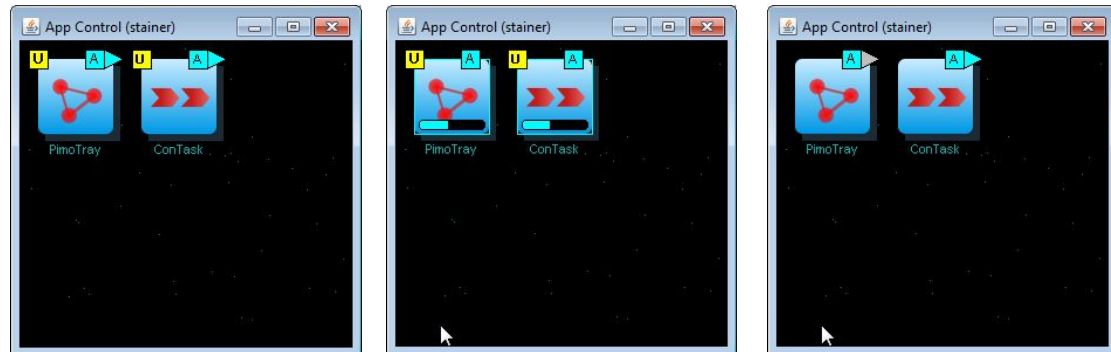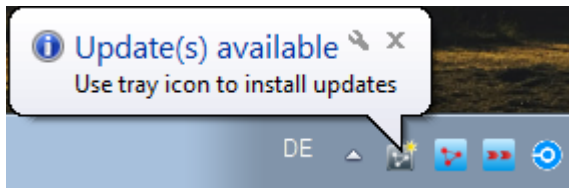
Update Available indicator & simple update procedure