TELEIOS 2nd User Community Workshop

Wrap-up

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Wrap-up Session (Friday)

- Wrap-up of the individual sessions

- Brainstorming Session

- Post-Workshop Activities

„learn about possibilities to work with EO data besides the emergency applications"

„get ideas on how to stimulate the use if EO data"

„expect that the developments will make my life easier"

„ I need more quality in my products to be more effective"

Use Case: Real-time Fire Monitoring

- Functionalities integrated so far:

  - Real-time fire monitoring with simulated arrival of new imagery.

  - Search for raw satellite data.

  - Offline processing of raw data using MonetDB, ability to select processing chain to use.

  - Search for hotspot products.

  - Refinement of hotspot products with semantic queries.

→ In general, the developments in TELEIOS aim at improving the capability to extract information from single images and from time series of images, thus supporting the work of real-time decision makers and of earth scientists.

Wrap-up Session 2

Use Case: A Virtual Observatory for TerraSAR-X data

- advance the current state of the art methods for SAR information extraction

- understanding to cope with the dual curse of complexity: high resolution and huge data volumes

- methods for assuring data quality

The demo included showed: query by example, content based exploration, annotation for semantic catalogue creation, elements of KDD, and scenarios for typical EO applications of VHR images

Wrap-up Session 3

TELEIOS Query Builder

- The TELEIOS Query Builder design works with visual query models which are a combination of a graph and filter facet based approach

  - enables users to flexibly construct a broad range of queries

  - also supports more complex topological, temporal and other semantic relations.

  - users are enabled to conveniently share such queries with each other

→ By the aid of this visual query editing facilities, users can formulate more advanced queries without being required to have a background in database or semantic web technology.

Strabon

- Discover raw data and products created by the processing chains of NOA and DLR

- Improve the thematic accuracy of the products of NOA with a post processing step that refines them by taking into account auxiliary data published as linked open data

- Enrich the automatic generation of fire maps with relevant geo-information by using a series of stSPARQL queries.

Wrap-up Session 5

MonetDB

- Uses column store technology and hardware aware algorithms to achieve high performance and scalability

- Focus on new SciQL language, an extension of SQL that is specifically geared at supporting scientific workloads

- SciQL introduces multi-dimensional arrays and efficient array processing functionality as first-class citizens next to relational tables

→ demonstrate the suitability, convenience, efficiency and effectiveness of MonetDB and SciQL to support EO tasks and applications

Brainstorming Session

How do you expect to benefit in your daily work from the TELEIOS software?

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- Enable me to answer on the availablity of data faster/ more efficient, maybe even without myself in the loop

- Help the project to integrate into their infrastructure new technologies / solutions tested and evaluated in TELEIOS

- MonetDB as potential interesting DB technology to further investigate

- Extension application/ combination of GIS/EO data in the fire monitoring use case could be interesting to transfer to any applications at my organisation

- More precise (=complex) geolocation queries → Strabon

- Ease my database tasks → MonetDB

- To provide in real-time information about fuel loads

- For scenario-based disaster preparations

- Integration of data sources and to use it as platform for Information sharing

- Help fire simulators to better evaluate a fire event

- Functionalities of the NOA Use Case interesting in the upcoming projects (based on STRABON and MonetDB)

- For my job (prevention of fires/monitoring of fires) I have the hope that it will become faster to produce thematic maps that are the tools for our decision making

Brainstorming Session

What would you consider the most exciting development?

- More data access

- The ability to pose complex queries and the monitoring in STRABON

- All data can be accumulated in a single user interface (3x)

- To make translations from raw data

- Potential for going large scale (huge datasets, …)

- Getting data in real-time / at least timely from the different sensors to the customer

- Having a common database that can handle different kinds of data with an open interface

Brainstorming Session

Is there any important related problem that the TELEIOS project is not addressing?

- Accessing data from distributed places

- So far, there seems to be some weakness / open issues in the integration of the different modules

- License issues on sharing data and software

- Integrate analysis of floral composition or other relevant anlyses/simulation that can help to make the decision making easier / faster / better

- Make data accessible for everyone

Post-Workshop Activities (I)

- You will have access to all presentations shown at this workshop on the Workshop Website

- We will send you the Workshop Report (~ 1 month)

  - Will include the results of the questionnaire analysis

  - Will be used as input for refining the requirements for the next version of the system architecture

- We will keep you informed about the evolution of the project

  - Project Newsletter

  - Various dissemination activities (publications, presentations, …)

  - Cooperation with related projects

- You will be invited to our final User Community Workshop in 2013

Post-Workshop Activities (II)

- Have a meeting with the Netherlands Institute for Safety and the National Operation Center to further discuss on Wildfire Behavioral Modeling applications

- Have a meeting with IMS-FORTH to discuss further on applications for Aerial Remote Sensing in Archaeology

- Multimedia application together with the NTUA

Overview on Timeline for TELEIOS Software Development
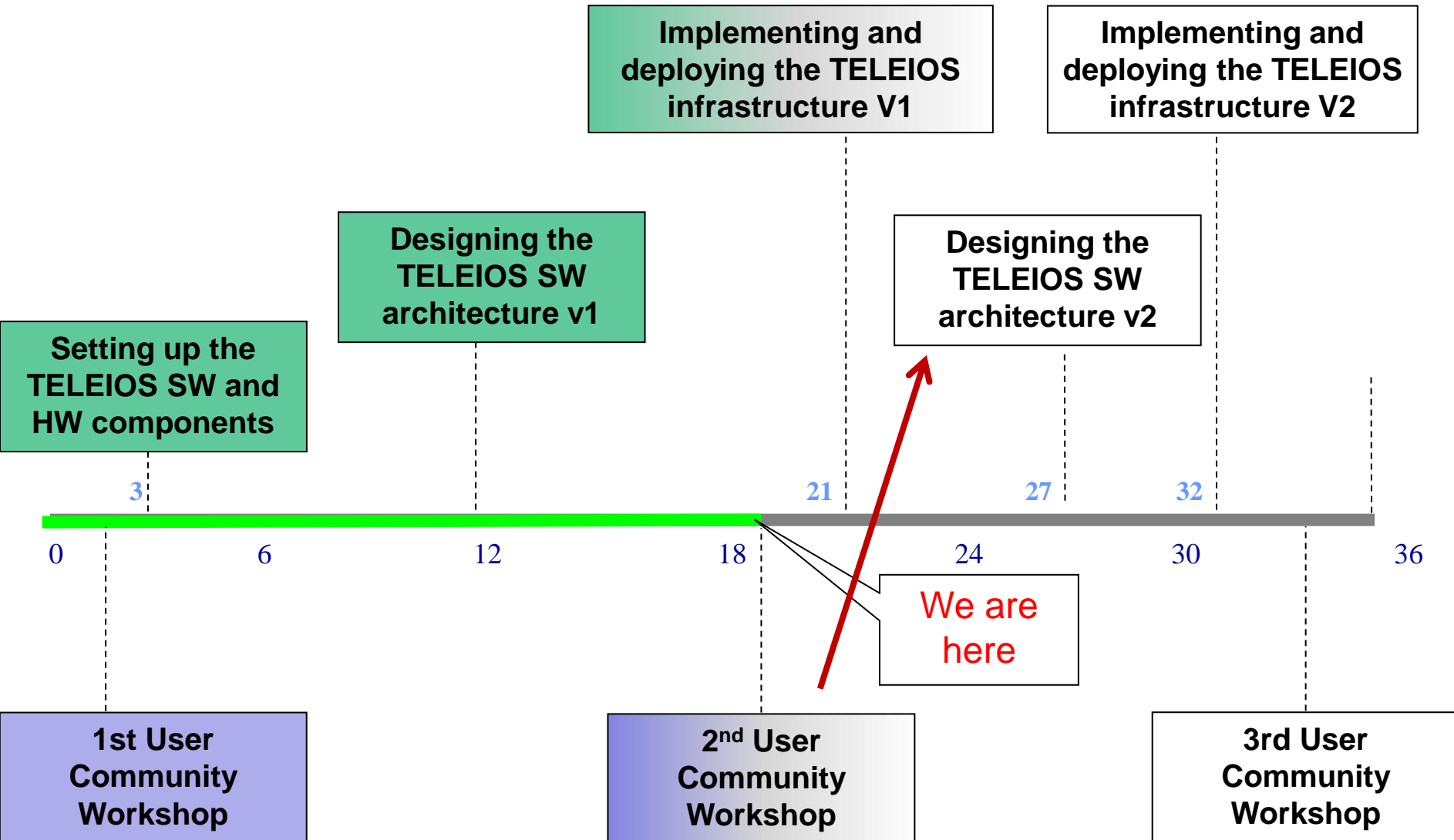
Thank you for your support

Have a safe and pleasant journey

http://www.earthobservatory.eu/

It would be beneficial if the system could provide enriched information, e.g. to be able to decide about the priorities for the fire brigades on where to go first

If it is not precise, it is not useful: high resolution is very useful, e.g. for quick decision making, e.g. mining activities have to be stopped if near a fire hotspot

CORINE landcover is not up-to-date and thus not well suited for making predictions (substitute with other more suitable data sources)

Session 2: VO for TerraSAR-X data

Interactive learning:

1. How to compare images from different sensors, e.g. oblique fotos and vertical fotos

- What algorithms are needed to distinguish between different sensors?

2. How to identify collapsed buildings?

Still a requirement: there is the possibility to identify based on shadow information

Query by Example:

3. Why did you not implement the processing directly in the database?

    MonetDB so far only used for storing but it is planned to use it also for processing

    1. Algorithm query by example
    2. Performance and scalability to be tested in MonetDB
    3. Using SciQL designed specifically for images to be used for this task

4)

Is the scale of patches adapted to the kind of feature that are searched for?

Future plannings:

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- Manolis: careful, negation will not work with all predicates (e.g. noName)