

# **Semantic Wiki in Environmental Project Management**

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ISESS 2011, Brno

# Common user, Environmental tools



- **Common applications**

- No semantics, tagging?
- Heterogenous Data
- Low adaptability

- **Tools requirements**

- Collaborative creation
- Social communication
- Specialization on data
  - Accessibility
  - Reusability
  - Repurposability

# Wikis, Data Issues

- **Colaborative environment**
  - Semistructured data like:
    - Projects' metadata
    - Users, events, meeting notes
    - Timetables, etc.
- **Broad usage, alternative implementations**
  - Low-cost maintenance
  - Low requirements
- **Easy authoring vs. (semi)structured data?**
  - Wiki-tagging
  - Macro-APIs

# Broader context of project management



- **Collaboration, broader activity**

- Project management and presenting is vital
- Usage of general technologies
  - SVN, Wiki, SSO...
- Open Source, open architecture (plugins)

- **Deep Thought**

- Trac system fork
- Bug tracking, wiki, issue reportings
- Internationalization, multiple projects
- Python component architecture
  - Plugins, macros

# Wikis and semantics



- **Semantic Implementations**

- Ace wiki, KiWi
- *KnowWE*
- OntoWiki, Semantic MediaWiki, TaOPis, Wikidsmart

- **Requirements**

- Accessing the repository
- Semistructural data storage
- Easy data annotation
- Complex semantic queries
  - With easy wrapper GUI

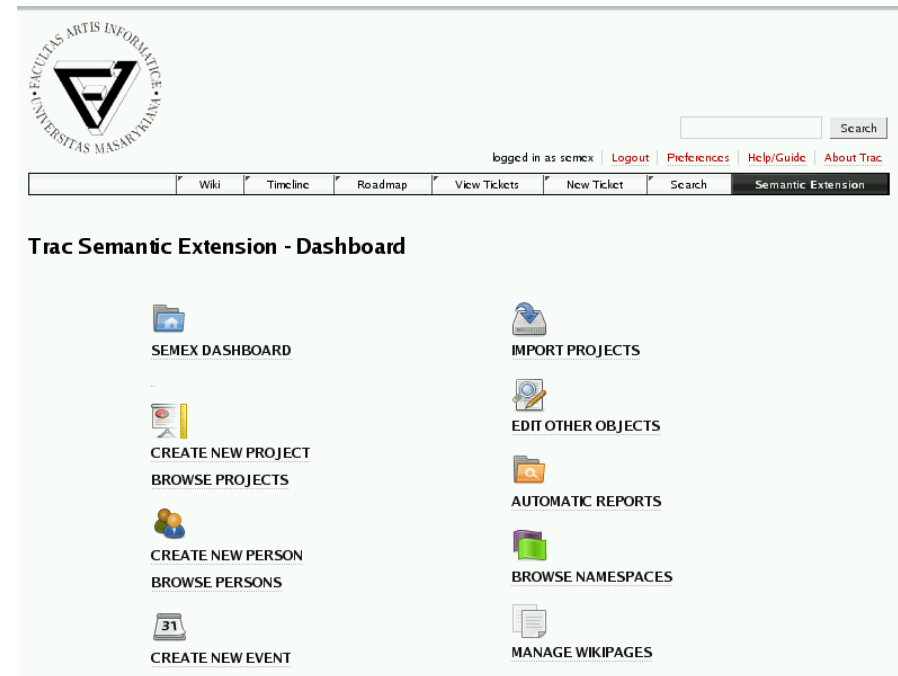
# Semex

- **Ontologic concept annotation in wiki**

- Sesame 2 repository frontend, Python-based
- Deep Thought (and Trac) system plugin
  - administration
- Deep Thought Wiki macros
  - Visualization and authoring

- **Authoring**

- Project environment creation
- User-centered wizards
  - Form-based interface
- Wiki macros definition



# Project management semantics

- **Linked data imperative**

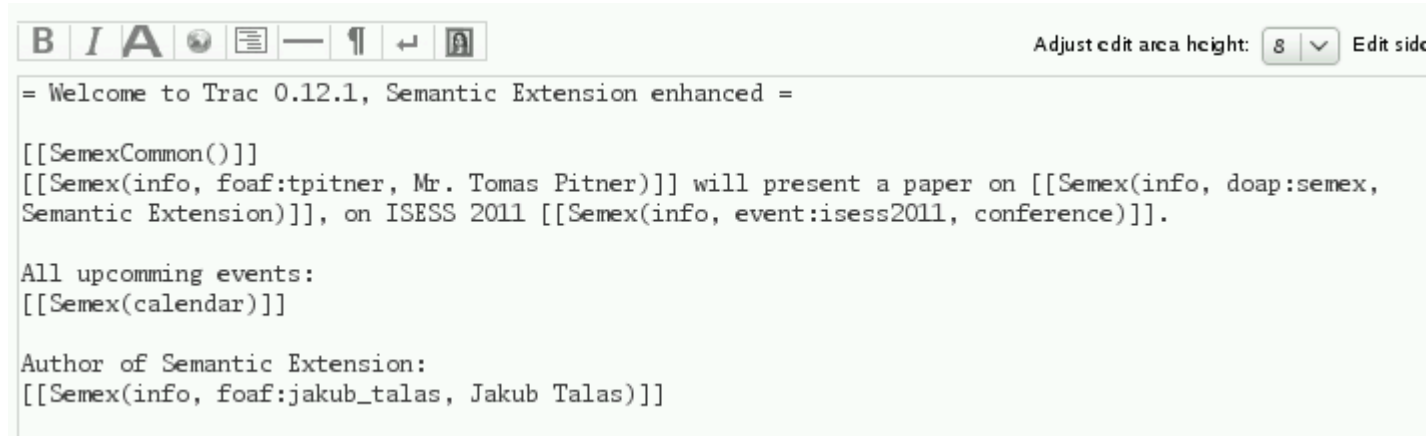
- Set of well defined specialized ontologies – identify!
- Cooperative description of the semantics

- **Ontologies:**

- FOAF (persons)
- DOAP (projects)
- DC (documents)
- WIKI (wiki pages)
- EVENT (events definitions)
- GEO (events location)

# SemEx - GUI

- **Visualization of semantic data**
  - Wiki Macros
    - Lists of other instances
    - Definition/detail dialog
    - Events calendar, etc.
- **Semantic relation browsing**
- **The low-level data view**

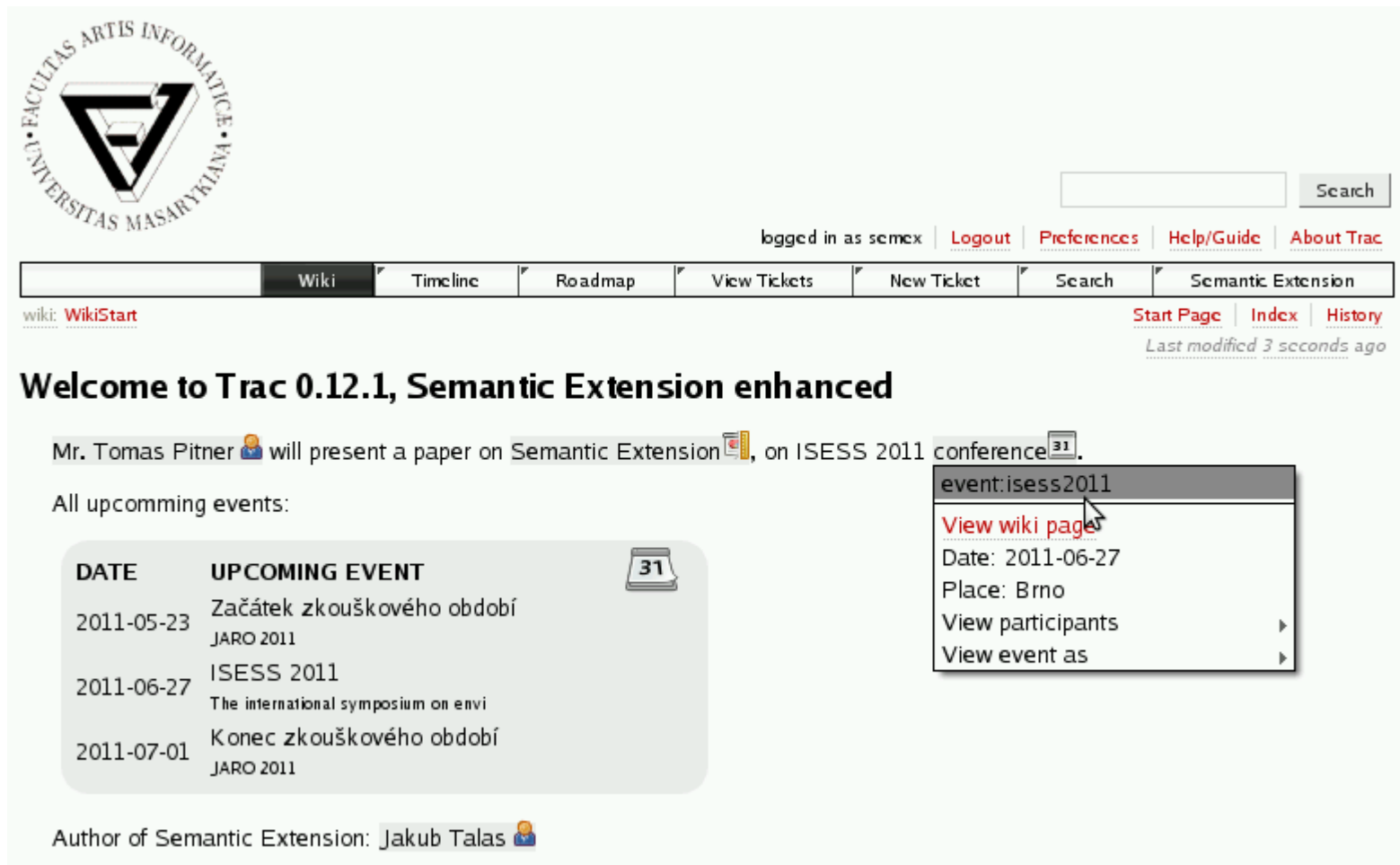


The screenshot shows a web browser window displaying a Trac page. The page has a light green header with a toolbar containing icons for bold, italic, link, and other editing functions. Below the header, the page content is displayed in a monospaced font. It starts with a welcome message, followed by a list of instances using the `[[SemexCommon()]]` macro. Then, it shows a detailed view of a specific instance using the `[[Semex(info, foaf:tpitner, Mr. Tomas Pitner)]]` macro, which links to a paper on the Semantic Extension at the ISESS 2011 conference. Below this, there is a section for upcoming events using the `[[Semex(calendar)]]` macro, and finally, the author information using the `[[Semex(info, foaf:jakub_talas, Jakub Talas)]]` macro.

```
= Welcome to Trac 0.12.1, Semantic Extension enhanced =  
  
[[SemexCommon()]]  
[[Semex(info, foaf:tpitner, Mr. Tomas Pitner)]] will present a paper on [[Semex(info, doap:semex,  
Semantic Extension)], on ISESS 2011 [[Semex(info, event:isess2011, conference)]].  
  
All upcoming events:  
[[Semex(calendar)]]  
  
Author of Semantic Extension:  
[[Semex(info, foaf:jakub_talas, Jakub Talas)]]
```



# SemEx - GUI (2)





logged in as semex | [Logout](#) | [Preferences](#) | [Help/Guide](#) | [About Trac](#)

[Wiki](#) | [Timeline](#) | [Roadmap](#) | [View Tickets](#) | [New Ticket](#) | [Search](#) | [Semantic Extension](#)

wiki: [WikiStart](#) [Start Page](#) | [Index](#) | [History](#)  
Last modified 3 seconds ago

## Welcome to Trac 0.12.1, Semantic Extension enhanced

Mr. Tomas Pitner  will present a paper on Semantic Extension , on ISESS 2011 conference .

All upcoming events:

| DATE       | UPCOMING EVENT                                    |  |
|------------|---------------------------------------------------|-----------------------------------------------------------------------------------|
| 2011-05-23 | Začátek zkouškového období<br>JARO 2011           |                                                                                   |
| 2011-06-27 | ISESS 2011<br>The international symposium on envi |                                                                                   |
| 2011-07-01 | Konec zkouškového období<br>JARO 2011             |                                                                                   |

Author of Semantic Extension: Jakub Talas 

event:isess2011

- [View wiki page](#)
- Date: 2011-06-27
- Place: Brno
- [View participants](#)
- [View event as](#)

# SemEx & Deep Thought

- **Usage in situ, real projects**
  - User feedback (student projects)
  - System integration (academic system)
  - Semantic structure refining (domain identification, analysis)
  - Common user interface (visualization, semantic query wrapping)
- **Semantics “freed from DB”**
  - Flexibility of the data scheme
  - Communication improvement (LD)
  - Easier export to other methodologies

# Further work

- **Usage of formal visualization**
  - Fresnel and FSS ontology based external visualizer instead of hardcoding (RDF stylesheets)
    - easier export to RDF or microformatted HTML, etc.
- **Integration (compare/combine)**
  - With other env. tagging tools like TaToo project
- **Further testing**
  - Larger-scale projects and datasets

# The final slide

- Thank you for your attention.
- <https://sourceforge.net/projects/semex/>

