SMW⁺ - Semantic Enterprise Wiki

ISWC 2011

hansch@ontoprise.de

http://www.smwplus.com
About ontoprise GmbH

ontoprise GmbH is a leading company in industry proven semantic infrastructure and solutions worldwide. ontoprise solutions provide fast contextual access to enterprise knowledge thus enabling better decisions. They help to increase the technical and operational efficiency of companies.

Founded: 1999
Team: 75 employees
Location: Germany, Karlsruhe
Focus: - Integrated semantic platform
Overview

- SMW+ in a nutshell
- Why are semantic Wikis better?
- Demo of SMW+
- Examples of use
- Where to get SMW+?
SMW+ in a nutshell

SMW+ is a Semantic Enterprise Wiki for agile collaboration on rich text and data

- It is a Wiki: Platform for web-based collaboration and quick authoring and provision of content.
- It is a database: Users embed data in text that can be retrieved with powerful data query mechanisms.
- It is a data integration tool: Users access data from external databases, web services or the Semantic Web from within the Wiki.
- It is enterprise-ready: Installs in 15 minutes and comes with business-critical features. Extendible and scalable.
Overview

- SMW+ in a nutshell
- Why are semantic Wikis better?
- Demo of SMW+
- Examples of use
- Where to get SMW+?
Text and data are together in one web-based collaboration tool

- Consensus building process is applied to text and data
  
  Expert A comes to a different estimate of the expected work effort than expert B.

- Context of data is given in natural language text
  
  The risk of failure in this project is 50% because we have never done this before.

- Reports are embedded directly in the text
  
  All employees having worked abroad for at least 2 years and having web development skills?
Data brings Wiki tools to perfection

- Data leads to more easier exploration, better search results, more meaningful navigation and, intuitive access to it through visualizations.
Heterogeneous data is integrate and aligned in the Wiki

- Semantic technology allows to integrate data from different sources and to align it in one single place
- A semantic wiki can act as socially curated information hub
Overview

- SMW+ in a nutshell
- Why are semantic Wikis better?
- Demo of SMW+
- Examples of use
- Where to get SMW+?
Demo

The next sequence of slides will not be presented. Instead we will give a 5 minutes demonstration of the most important features:

SMW+ 1.5.6 – WYSIWYG Editor

- Easily format rich text, create tables and embed images and templates
Easily inspect, create and alter the semantic annotations of a wiki article.
Data entry forms are created on the fly from the ontology and always kept up-to-date.
Explore semantic data exceptionally fast

- Drill-down search results by categories, properties, and their values
- Find relevant articles, facts, and semantic content
- Identify suitable properties for queries
Easy query construction with the Query Interface GUI

- Creation, loading, editing and (re-) using of existing queries
- Handling of multiple query results and result formats
- Special query search
SMW+ 1.5.6 – Ontology Browser

- gives an overview of the wiki's ontology and knowledge base
- users can navigate through the category and property hierarchy and inspect instances and their properties
- administrators can change the ontology, e.g. by adding and renaming categories or deleting instances
Semantic Data Integration with TripleStore professional 1.5.6

**TripleStore Professional**

*High-end wiki ontology curation and Semantic Data Integration*

- Integration of heterogeneous data silos and inferencing on this data
- High-end ontology engineering tools provided by OntoStudio
- Visual editing of complex rules and federated semantic queries
Overview

- SMW⁺ in a nutshell
- Why are semantic Wikis better?
- Demo of SMW⁺
- Examples of use
- Where to get SMW⁺?
Who is using SMW⁺

- Some users¹ of SMW⁺:

more at:

http://smwforum.onpoprise.com/smwforum/index.php/Applications

¹ Reference users of SMW⁺ or the Halo extensions
Application areas of SMW^+

- Enterprise Content Management
  
  Technologies to manage an organization’s unstructured information, e.g. content- and document management

- Integrated Collaboration Environment
  
  Technologies where virtual teams do their work, e.g. project management.

- Business Intelligence 2.0
  
  Easy-to-use BI systems to generate reports on enterprise data that can be shared and authored collaboratively.
Enterprise Content Management

- Technologies to manage an organization’s unstructured information, e.g. content- and document management

- Example:
Example of use: Unesco/IOC

- online encyclopedia and training center about marine data and oceanic knowledge
- authors create teaching materials in private sections, and get them reviewed by editors before they are published
- target-appropriated presentation of learning contents based on semantic metadata
Use Case: PNNL

- wiki for storing, retrieving, reviewing and annotating documents
- collaborative environment for sharing and discussing these materials with team members
- integrated techniques to discover new, related information for social and traditional media
- integration with an NLP framework to automatically annotate contents
Enterprise Content Management

- Benefit from using SMW+:
  1. Increased efficiency of content production by aggregating content using queries.
  2. Ontology of the domain leads to more adequate metadata (that goes beyond technical metadata and simple tags).
  3. Improved user experience by advanced navigation, exploration and search tools that are based on domain data.
Integrated Collaboration Environments

- Technologies where virtual teams do their work, e.g. project management.

- Example of use:
Example of use: Siemens

- SMW+ as knowledge platform for Communities of Practice
- captures structured knowledge about projects, persons, topics, organizations etc.
- discover experts and related resources for a certain topic
- flexible navigation, semantic search and multiple entrance points
- dynamic aggregations (e.g. lists of projects)
Example of use: Siemens
Use Case: Banca Romagna Cooperativa

- Business Process Reengineering project involving task surveys, analysis and process consolidation
- Conducting task surveys in SMW+ for collecting data and descriptions on tasks
- Tasks were described with properties (e.g. owner, duration, risk level) for selecting the most critical processes in a business impact analysis
- Dashboards providing dynamic views on the collected data based on semantic queries
- Further insights were gained by exporting and processing the data in MS Excel and MS Access for advanced statistical analysis (like clustering)
- Standardized procedures of the tasks were developed collaboratively in the wiki
Use Case: Banca Romagna Cooperativa
Integrated Collaboration Environments

- Benefit from using SMW+:
  1. Ontology of the domain leads to more adequate metadata (that goes beyond technical metadata and simple tags).
  2. Better support of the individual needs of project teams by flexible metadata creation.
  3. Better support of knowledge formalisation and consensus building processes
Knowledge formalisation

The start phase requires a Semantic Wiki supporting collaboration and incremental knowledge formalisation:

- **Collection of initial project artifacts**
  - *Wikis are the perfect tool to collect and publish documents, write ups, emails etc*

- **Accel consensus process in team**
  - *The Wiki-paradigm enables users to actively participate in a (community) consensus process.*

- **Knowledge formalisation**
  - *Users tag data sitting in texts, transform data into process artifacts and process data within the Wiki.*
Business Intelligence 2.0

- Easy-to-use BI systems to generate reports on enterprise data that can be shared and authored collaboratively.
Example of use: Fortune 100 pharma company

- Internal self service portal for R&D staff
- Integration of DBs via OntoBroker (mapped into one ontology) containing information about production lots, ingredients of individual products, results from tolerance tests, etc.
- ability to track the genealogy of each brand
- generate reports for R&D via querying integrated databases
- usage of rules for inferring knowledge
Benefit from using SMW+:

1. *The wiki provides an integrated view on the data using a common ontology. Semantic queries enable dynamic, customized views.*

2. *Legacy data can be complemented with socially curated data in the wiki. Data models of the integrated data can be extended easily in the wiki as needed.*

3. *Legacy data, views on legacy data and socially curated data can be embedded into wiki articles. This helps teams to collaborate, discuss and built consensus on it.*
Overview

- SMW+ in a nutshell
- Why are semantic Wikis better?
- Demo of SMW+
- Examples of use
- Where to get SMW+?
Wrap up

- Wikis are indispensable tools.
- Semantic Wikis outpace traditional Wikis through the use of data
- SMW+ is a Semantic Enterprise Wiki that combines text and data.
Where to get SMW⁺

get your copy of SMW⁺ within 5 minutes!

Product home page:  http://www.smwplus.com

Daniel Hansch
Email:  hansch@ontoprise.de
Web:  http://www.ontoprise.com