Semantic SharePoint

Technical Briefing

Helmut Nagy, Semantic Web Company
Andreas Blumauer, Semantic Web Company

What is Semantic SP?

- a **bundle of web parts** to make a SharePoint server ‘smarter’
- a **joint venture** between iQuest and Semantic Web Company
- a **network of partners** with high expertise in the fields of SharePoint, enterprise search, and search-driven applications
- an **architecture** to link and mash content from SharePoint with content from other sources
- **a facilitator** for *smart content management* which is based on semantic technologies: automatic text analytics, automatic semantic tagging, and semantic search

Who is Semantic Web Company?

SEMANTIC WEB COMPANY
linking data to knowledge

http://www.semantic-web.at/

- Headquartered in Vienna
- More than 20 experts in the fields of
  - software engineering
  - semantic technologies
  - semantic IT consulting
- Product: **PoolParty Semantic Suite** (launched in 2009)
- Serving customers from all over the world
- Working for leading companies in Life Sciences, Finance, Health Care, Public Administration and Energy
- EU- & US-based consulting services
- Large network in the enterprise and academic community

Who is iQuest?

IQUEST

http://www.iquestgroup.com

- Headquartered in Germany, with local teams in
  - Switzerland
  - Romania
  - U.S.
- Currently employs more than 500 people
- More than 15 years experience
- Extensive portfolio of professional services and customised software solutions across Europe, MEA and the U.S.
- Working for leading companies in Life Sciences, Telecom, Financial Services, Transportation and Energy.
- Microsoft Gold Independent Software Vendor and Gold Content Management Partner
- Microsoft Germany near shore Partner.

Why is Semantic SP important?

1. information retrieval systems have increasing demand for **better precision and recall** of search results

2. in order to generate new knowledge, information from various sources has to be **linked and integrated**

3. **smart content management** has become an important issue in many knowledge-intensive industries

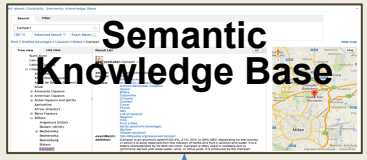
4. need for **facilitated access to complex content** through more context around single pieces of information

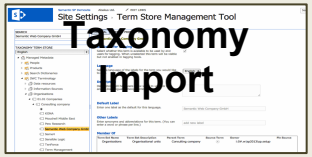
Architecture (High-Level)

SharePoint serves as content source and as presentation layer

SharePoint

Presentation Layer





...

PP API / SPARQL endpoint

poolparty

Automatic Linking

Semantic Layer: Thesauri & Knowledge Graphs

PP API / Text Analytics

SharePoint

Content Source

Document collections

Wiki pages

Task lists

...

Web content / Web APIs
Other DMS / CMS
Legacy data

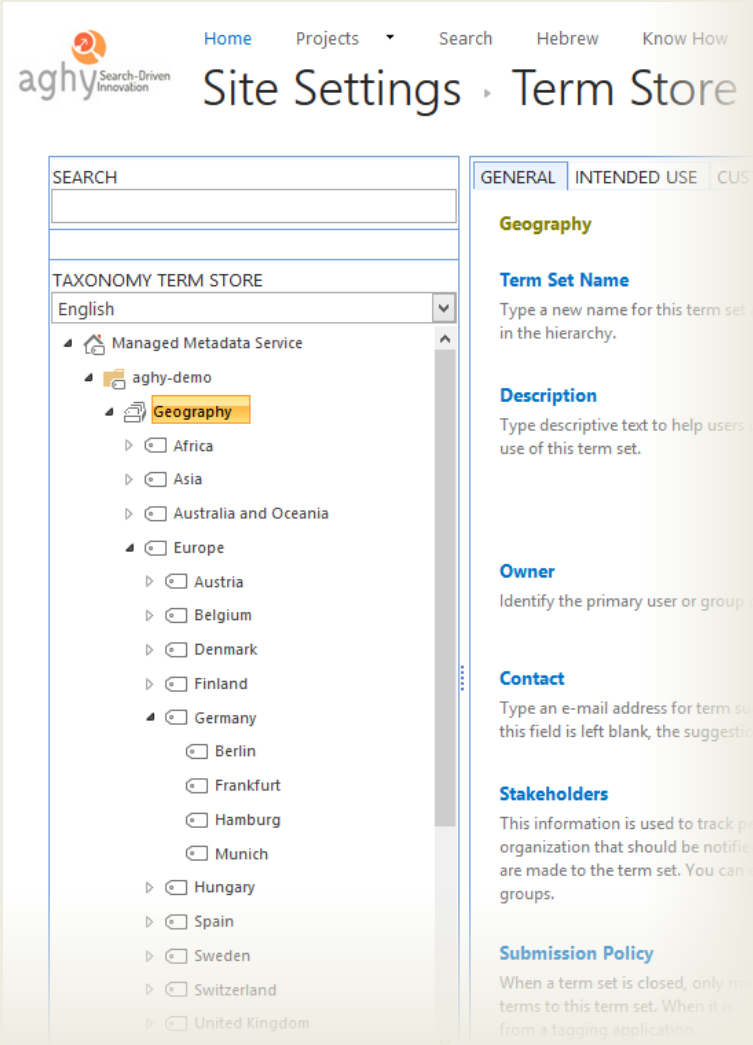
Semantic SP: Applications

- **PowerTagging for SharePoint 2013**
  Annotate content and documents from SharePoint automatically or semi-automatically and benefit from semantic search features.

- **Semantic Knowledge Base**
  Browse your knowledge graphs within SharePoint 2010 or 2013.

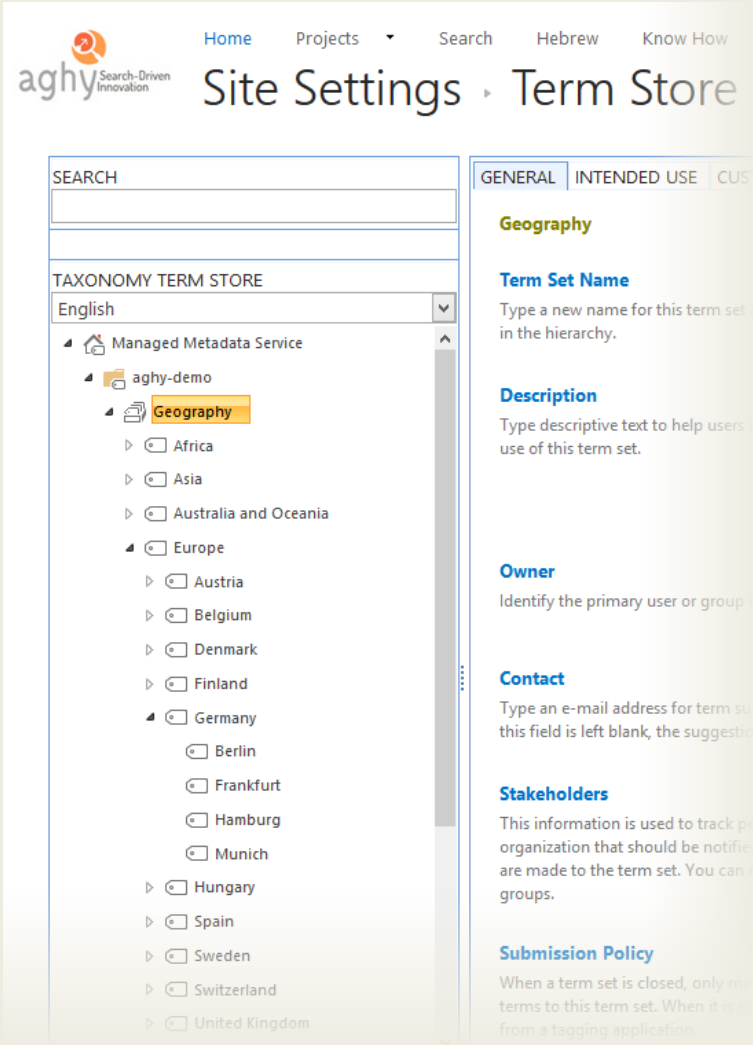
- **Taxonomy Creator**
  Manage your knowledge graphs & taxonomies with PoolParty Thesaurus Server and provide import files for SharePoint Term Store.

Taxonomies in SharePoint: Managed Metadata Term Store



- Hierarchical collection of centrally managed terms
  - Managed Terms (“Taxonomy”)
  - Enterprise Keywords (“Folksonomy”)
- (Limited) Multi-Lingual Support
- Synonyms
- Custom Properties

Taxonomies in SharePoint: Managed Metadata Term Store



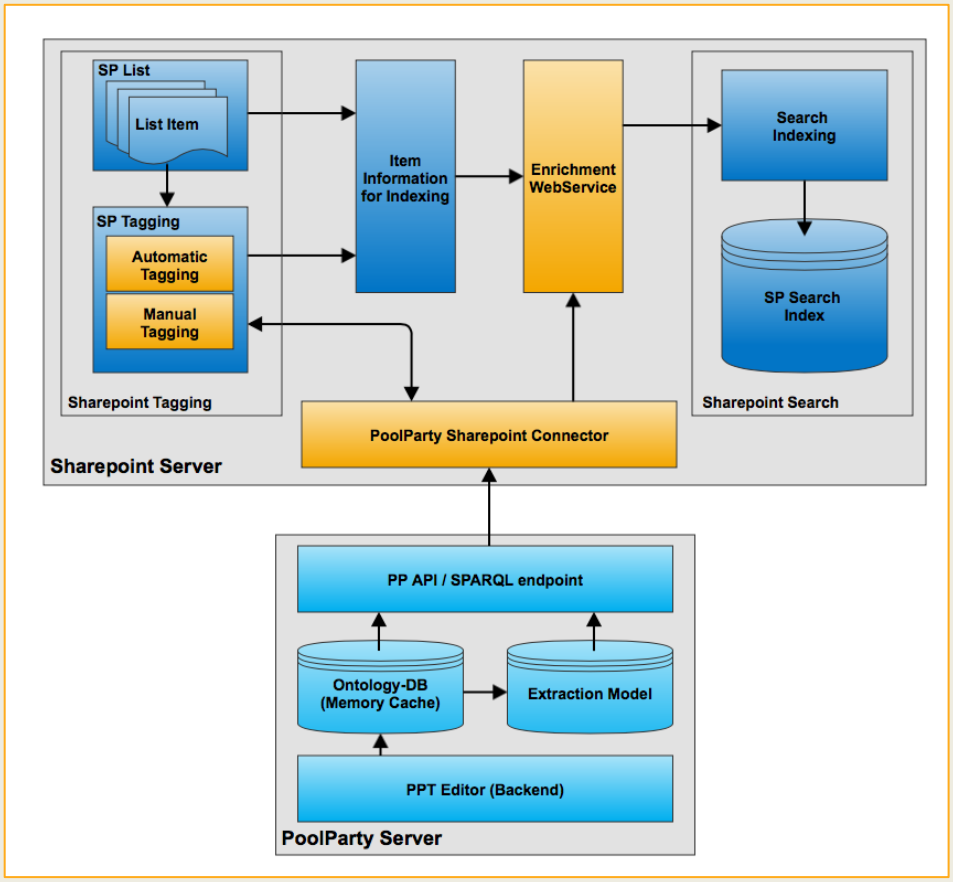
- What's missing:
  - No term types & metadata about terms
  - No relationship between terms
  - No Version Management on Term Sets
  - No Synchronization between Term Sets/Taxonomies
  - No Auto-Tagging
  - ….

Use Cases for PowerTagging

What are the typical scenarios and use cases when PowerTagging comes into play?

- **search experience**: existing search should be improved
- **time saving**: auto-tagging plays an essential role
- **consistent tagging**: use of controlled enterprise vocabularies is important

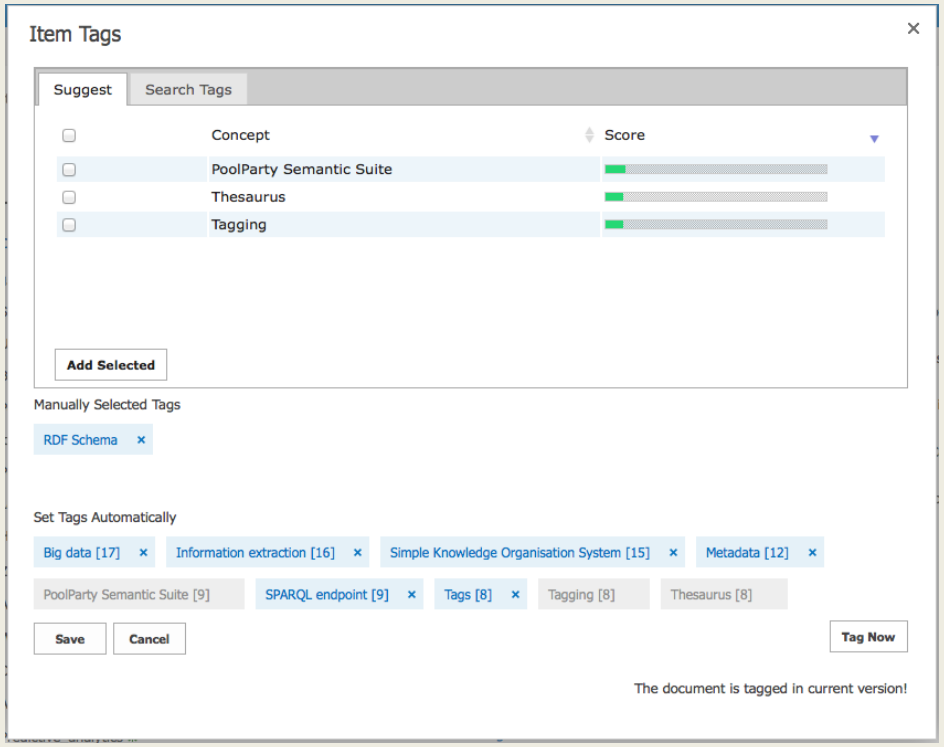
PowerTagging - Overview



The PowerTagging integration adds the following features:

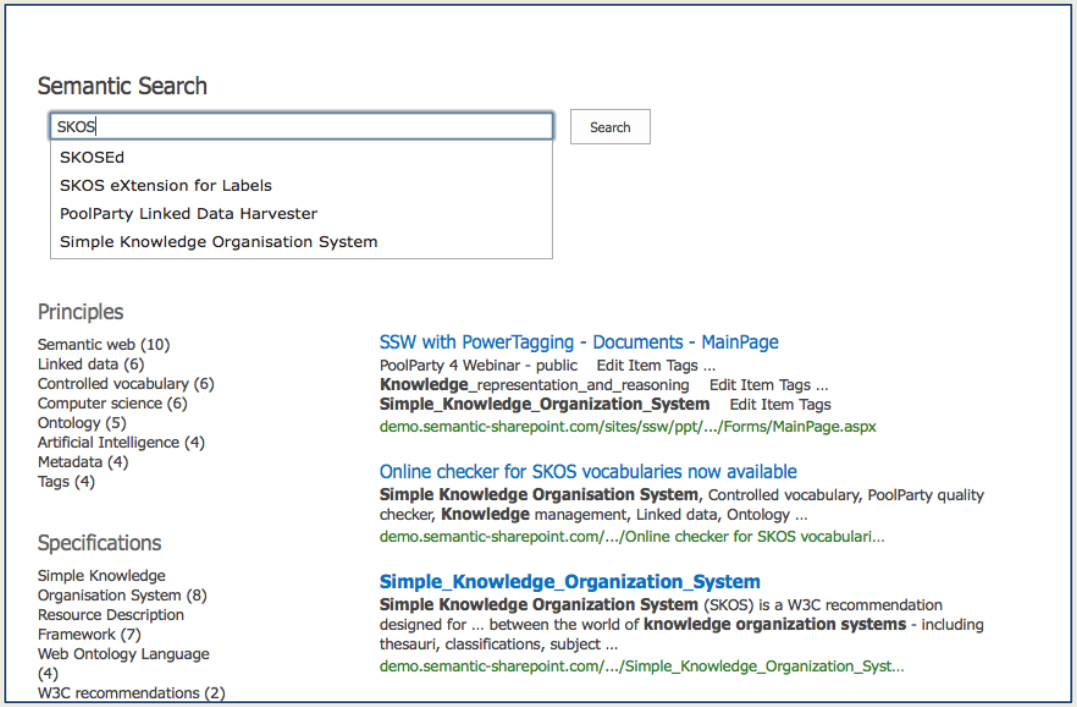
- Automatic and manual tagging of SharePoint list items and uploaded documents
- Enrichment of the SharePoint search index based on the tagged content. The search index can be enriched by:
  - labels of tagged concepts
  - relations of tagged concepts and their labels (top concepts, broader concepts, related concepts)

PowerTagging - Tagging



- Tagging is done for
  - **content** created in SharePoint
  - **documents** uploaded to SharePoint
- Tagging is done
  - on content creation
  - triggered via jobs running in background
- Tagging can later be reviewed and **manually refined**
- Additional tags can be added manually on demand

PowerTagging - Semantic Search



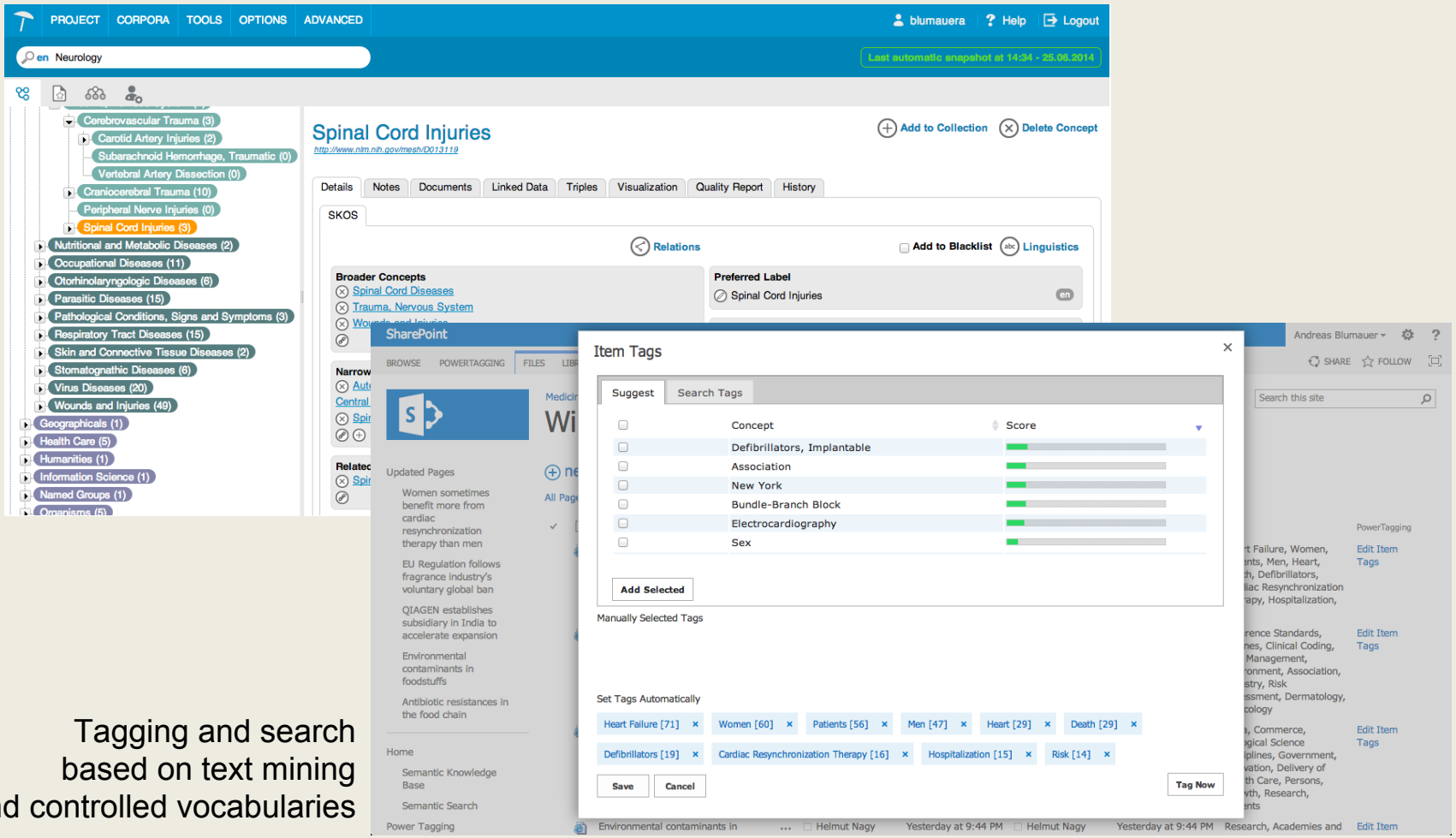
Based on the search enrichment the following features are available:

- Autocomplete
- Additional search navigators based on thesaurus structure
- Query expansion

All features can be configured (e.g. number of results for autocomplete) in the search web part configuration.

See how it works: PowerTagging for SharePoint 2013

Create and maintain controlled vocabularies



Tagging and search based on text mining and controlled vocabularies

Comparison: Standard Tagging vs. PowerTagging

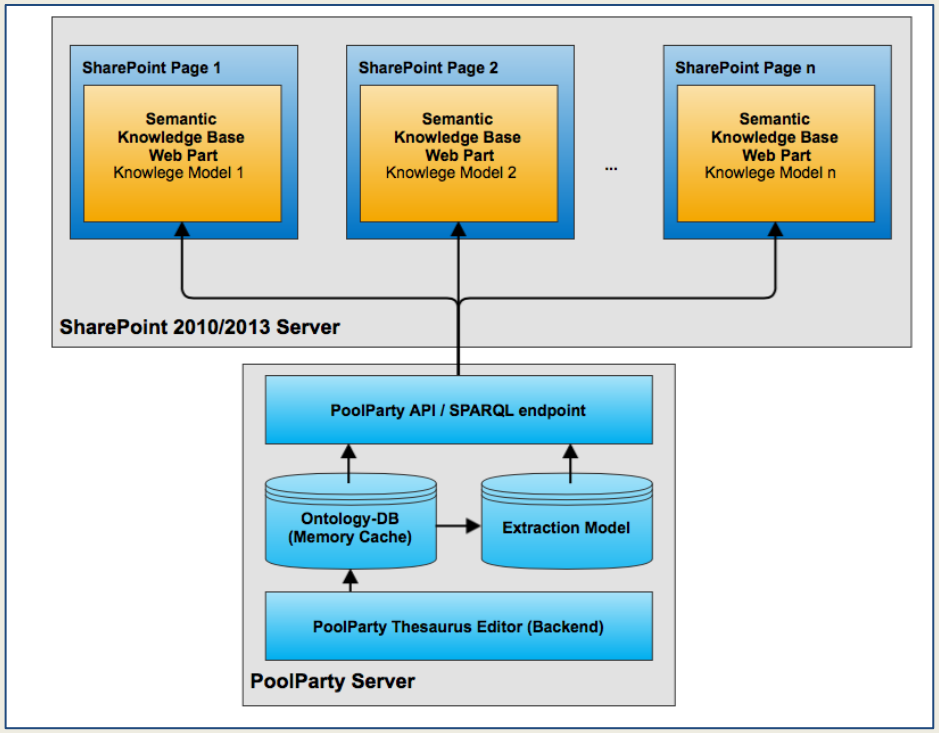
Standard Tagging

- limited support of translations
- no auto-tagging
- no query expansion
- ‘flat’ refiners
- seperated handling of search suggestions and term sets
- no versioning of terms
- limited workflow management
- no non-hierarchical relations
- no poly-hierarchies
- no text corpus analysis
- annotation restricted to SharePoint
- maximum number of levels is 7
- limited number of terms

PowerTagging

- support of translations
- auto-tagging
- query expansion (by synonyms/hierarchies)
- refiners alongside the taxonomy hierarchy
- taxonomies build the basis for search suggestions
- versioning of concepts/terms
- full-blown workflow management
- non-hierarchical relations, also for indexing
- poly-hierarchies supported
- integrated text corpus analysis
- annotation of various content sources
- no limits of size of taxonomy
- no limits of number of terms

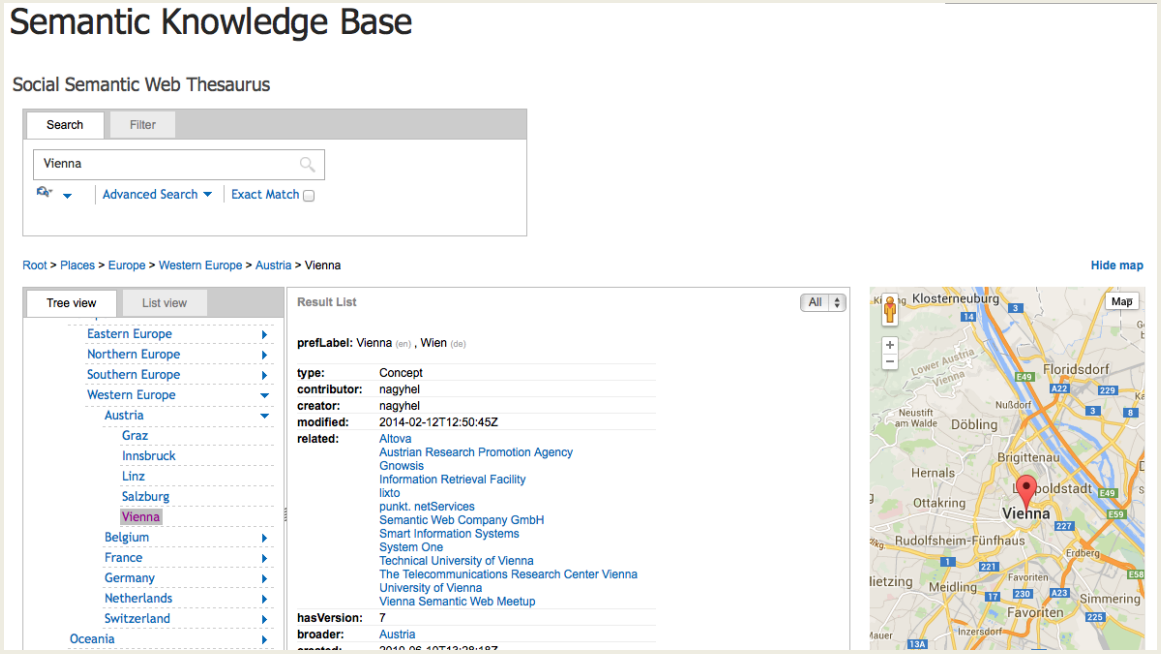
Semantic Knowledge Base - Overview



Most important features:

- Browse through your knowledge graphs within SharePoint
- Visualisation of multilingual enterprise vocabularies
- Search for terms and display details including images and geographic information
- Filter terms that share common features
- Export lists of terms

Semantic Knowledge Base - Browse your knowledge graphs



The Semantic Knowledge Base web part allows to browse a semantic knowledge graph or an enterprise vocabulary within SharePoint and offers the following features:

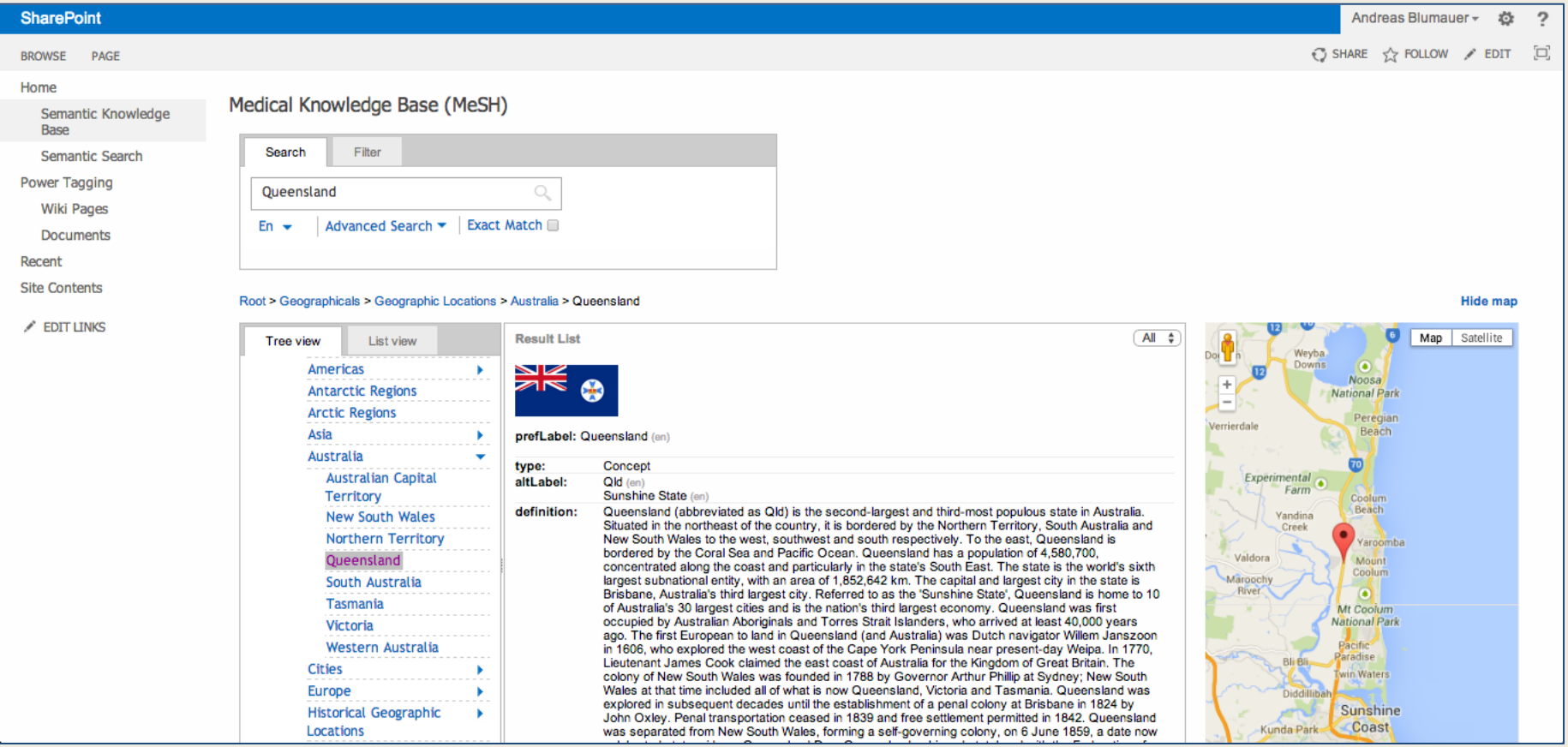
- Search including autocomplete
- Tree View
- List View
- Configurable Details View including
  - Map view
  - Images

Use Cases for Semantic Knowledge Base

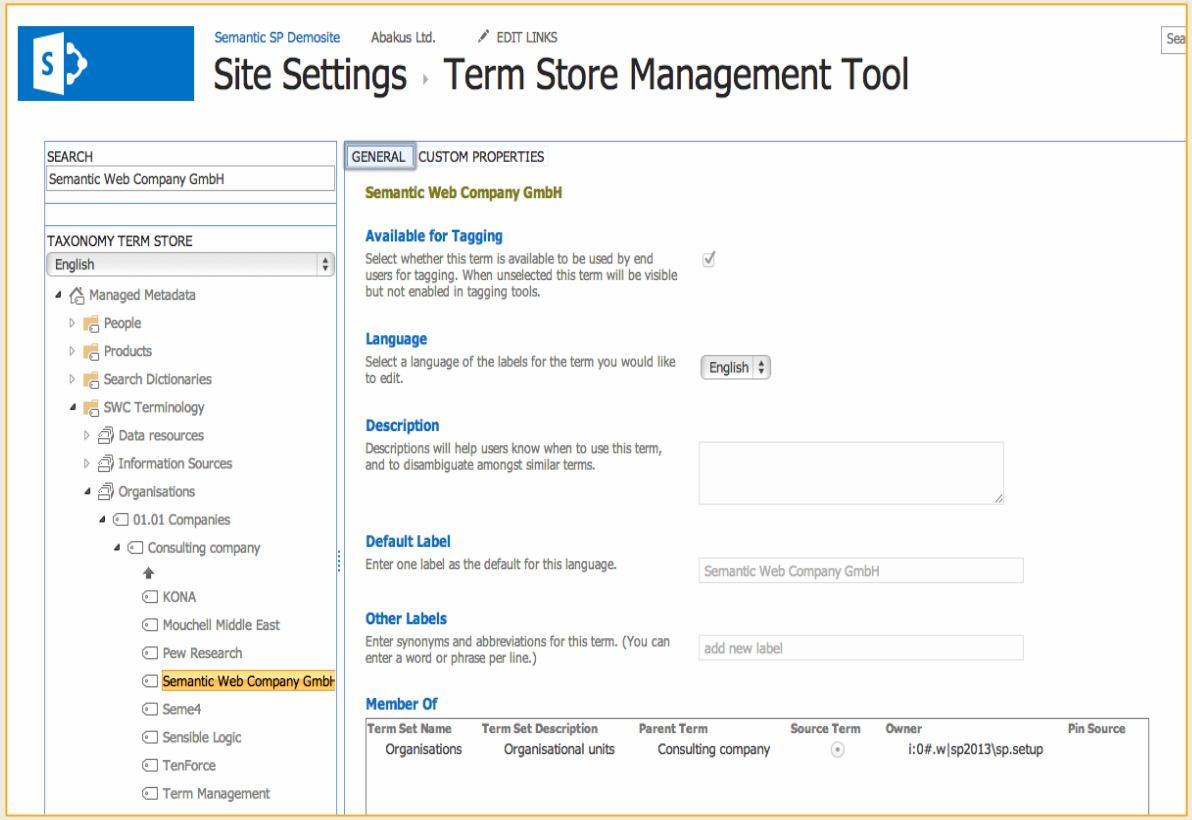
What are the typical scenarios and use cases when Semantic Knowledge Base comes into play?

- **knowledge visualisation**: provide information about complex knowledge domains
- **enterprise glossaries**: quick finder for the meaning of words and acronyms
- **e-learning**: provide applications to people who need to understand relations

See how it works:
Semantic Knowledge Base for SharePoint



Taxonomy Creator



PoolParty thesauri can be imported into the SP Term Store to be used for SharePoint's native tagging feature.

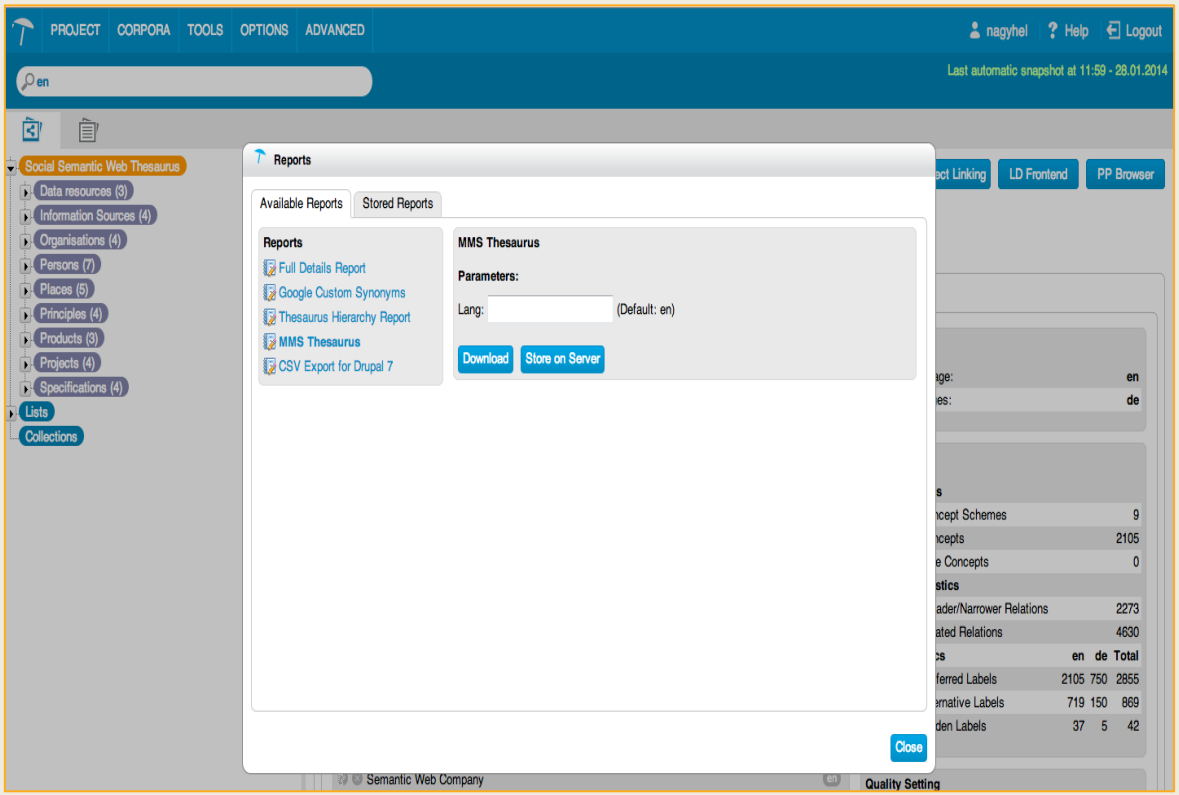
In addition, also a thesaurus that can be used to expand search queries with synonyms can be imported

Use Cases for Taxonomy Creator

What are the typical scenarios and use cases when Taxonomy Creator comes into play?

- **enterprise taxonomies**: provide tooling for large and more complex taxonomies & thesauri
- **multi-linguality**: create and use multilingual taxonomies in term store
- **text corpus analysis**: derive taxonomies from documents

Taxonomy Creator

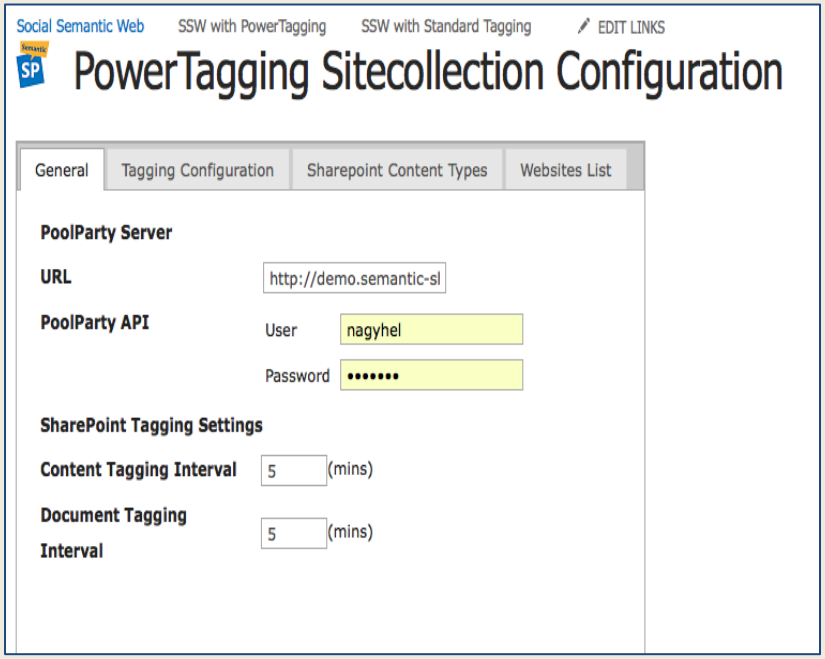


PoolParty supports the export of vocabularies and knowledge graphs in SharePoint format via Custom Reports.

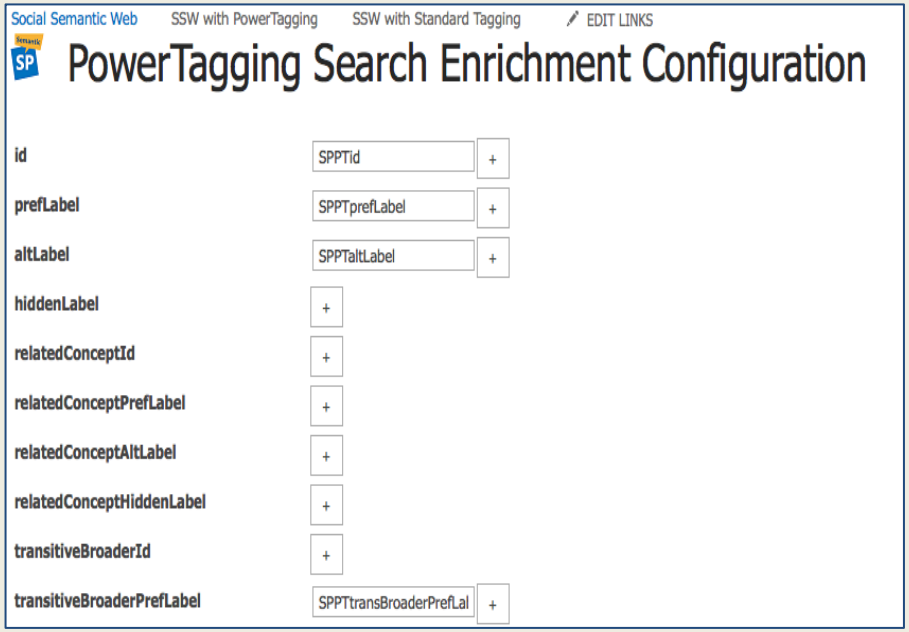
- Managed metadata Import file format
- Create and deploy a thesaurus in SharePoint

"PoolParty Custom Reports" is a generic feature of PoolParty Thesaurus Server which allows the creation of customized exports of selected taxonomies and thesauri.

PowerTagging - Configuration

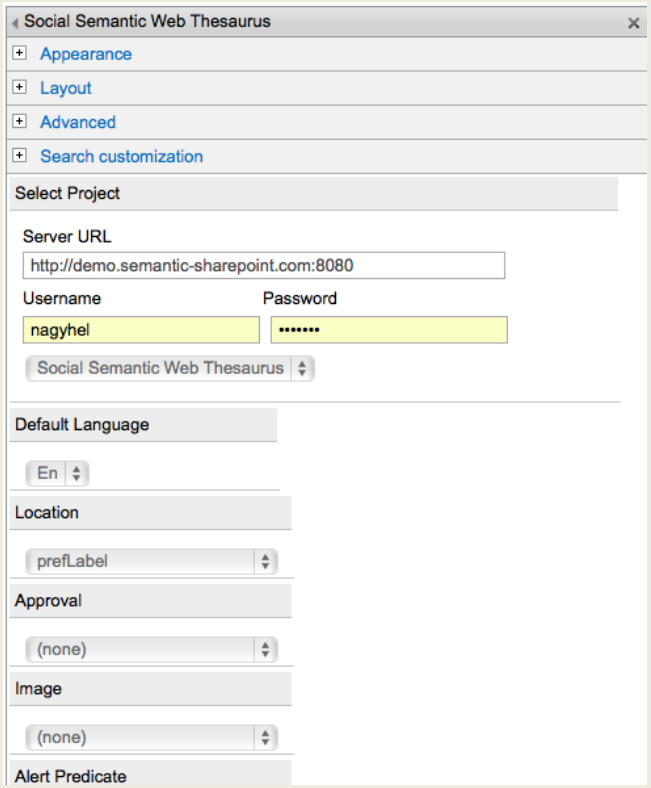


- Basic tagging configuration is done on site collection level
- Configuration can be modified on site level
- Tagging can be configured per list/app for a SharePoint site



- Search Enrichment configuration is done on site collection level
- Semantic meta-information to be added to the search index can be defined
- Information can be written to more than one custom field

Semantic Knowledge Base - Configuration



The Semantic Knowledge Base web part is highly configurable:

- PoolParty Server & Knowledge graph to be used
- Default language
- Default search behaviour
- Default view
- Limit results
- Properties to be displayed
  - Order of Properties
- Display image
- Display map

Works for SharePoint 2010/2013

Semantic SP: Business Cases

- **Business dashboards**
  Benefit from integrated views on your business objects!
- **Semantic Search**
  Find information by using smart search assistants!
- **Knowledge Bases**
  Reuse and visualize information to learn about complex knowledge domains
- **Enterprise Vocabulary Management**
  Overcome the Babylonian language confusion in your company!

How to get involved

1. Refine your use cases
   (in the course of a private webinar with us)
2. Get a demo server for your own tests

3. Receive support for requirements elicitation
4. Receive support for use case development

5. Dive deeper into technical questions, learn more about architecture, performance & security

6. Learn more about possible partnerships

Contact

Helmut Nagy
COO, Semantic Web Company

+43 1 4021235 - 33
h.nagy@semantic-web.at

Andreas Blumauer
CEO, Semantic Web Company

+43 1 4021235 - 27
a.blumauer@semantic-web.at

www.semantic-sharepoint.com
www.poolparty.biz

twitter

LinkedIn