



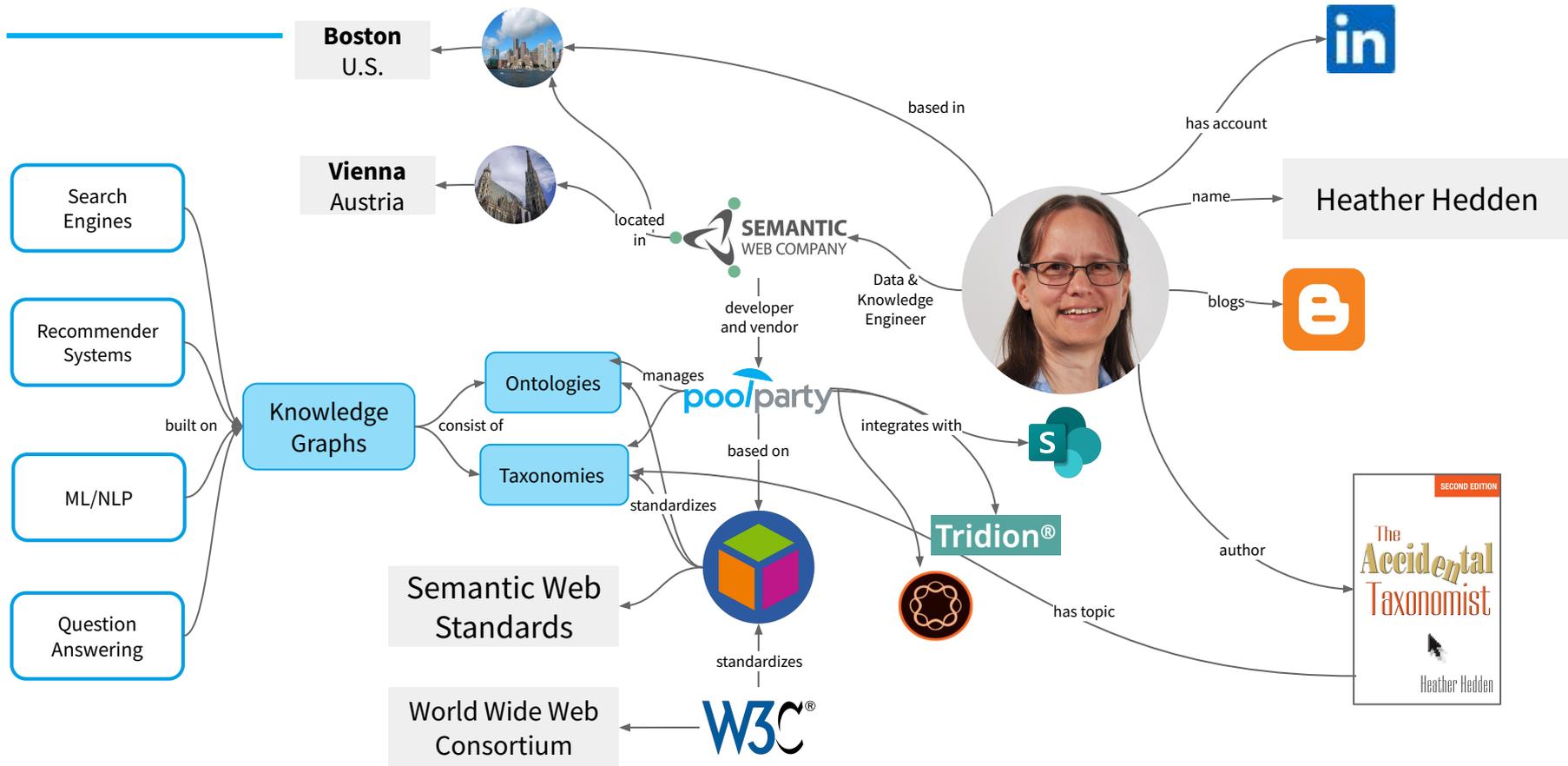
Enhancing Taxonomy and Tagging in SharePoint

North American Collaboration Summit
October 14, 2022

The background of the slide is a light blue-grey color. It features a top-down view of a person's hands working at a desk. One hand is holding a pen over a tablet displaying a video conference grid. Another hand is holding a pen over a tablet displaying a colorful circular chart. A network diagram with nodes and lines is overlaid on the right side of the image, with a globe icon containing a 'T' symbol. The overall aesthetic is professional and tech-oriented.

Heather Hedden
Data and Knowledge Engineer,
Semantic Web Company

Click the Graph—get in contact with us!



About the Speaker

Heather Hedden

Data and Knowledge Engineer
Semantic Web Company

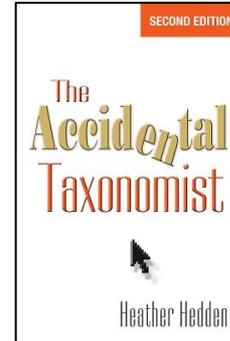


Over 25 years of experience in developing and managing taxonomies, metadata, and other knowledge organization systems for various organizations and applications.

Prior taxonomy consultant and staff taxonomist.

Instructor of self-paced online taxonomy courses.

Author of the book *The Accidental Taxonomist*
(3rd edition, 2022)



About Semantic Web Company and PoolParty



SWC is developer / vendor of
PoolParty Semantic Suite

Most complete and secure
Semantic AI platform on
the global market

W3C standards compliant



ISO 27001:2013
certified (since 2019)

First release in 2009

Current version **8.1**

On-premises or
cloud-based



Over **170** customers
world-wide



Semantic AI:

Fusion of graphs,
NLP, and machine
learning



Gartner named SWC a Visionary
in their **Magic Quadrant** for
Metadata Management Systems
2019 and 2020



KMWorld listed PoolParty as
Trend-Setting Product 2015 -
2022 and SWC in the **AI 50** list of
companies in 2020 and 2022



Forrester listed SWC as sample
vendor in their **report** on *The
Document-Oriented Text
Analytics Platforms Landscape
2022*

Named a Visionary in Gartner's Magic Quadrant for Metadata Management (2019 and 2020)

Figure 1. Magic Quadrant for Metadata Management Solutions



Source: Gartner (November 2020)

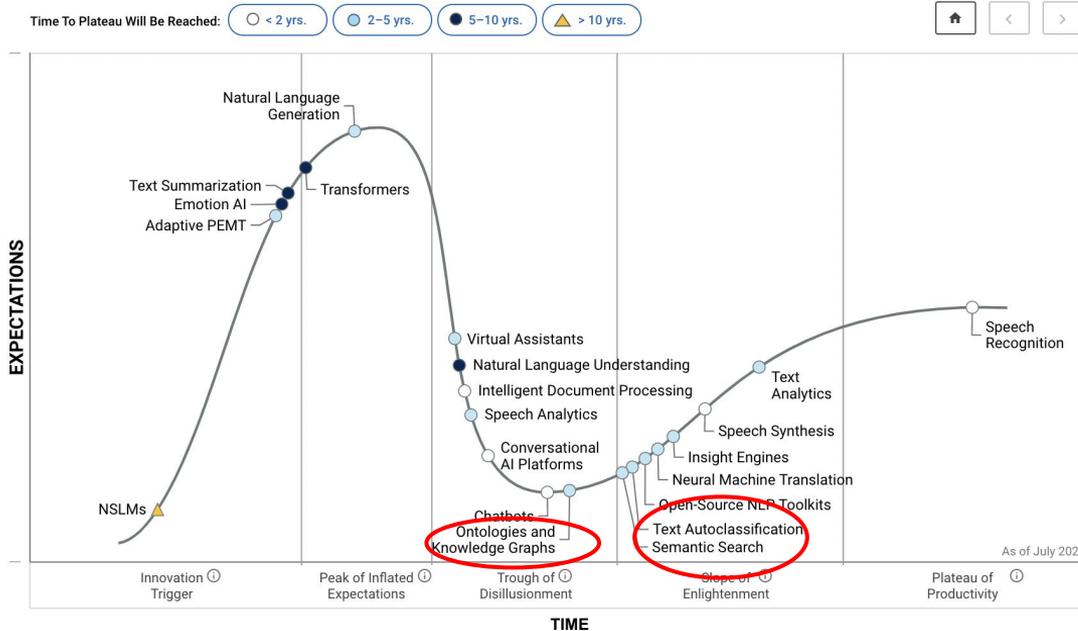
The market for metadata management solutions continues to demand **more innovation** and better execution in order to address the **needs of automation**, and combined cloud and on-premises deployments. Metadata management technology continues to expand in terms of capabilities and support for **multiple use cases**.

(Gartner, Inc: 'Magic Quadrant for Metadata Management Solutions', Guido De Simoni, Mark Beyer, and Ankush Jain, October 2019)

The Enterprise metadata management market has been valued at USD 2.72 billion in 2017 and is expected to grow at a **CAGR of 22.6%** during the forecast period (2018 - 2023) to reach USD 9.34 billion by 2023.

(Research And Markets, August 2018)

PoolParty Named a Sample Vendor in Gartner's Hype Cycle for Natural Language Technologies, 2021

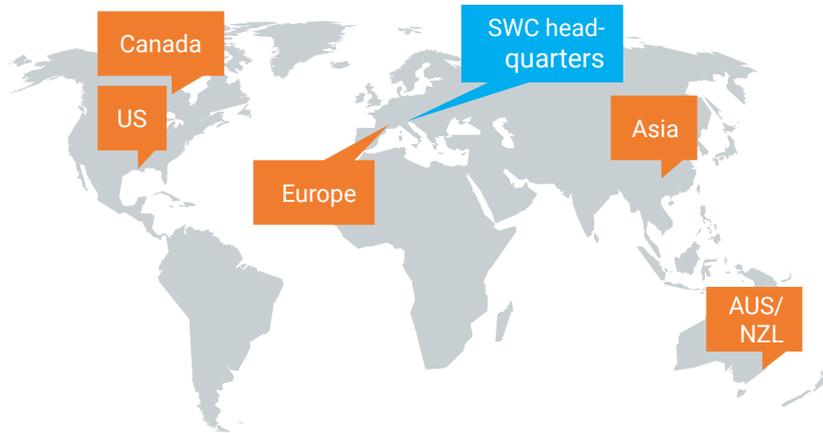


SWC/PoolParty is named a 'Sample Vendor' in three categories:

- ▶ **Ontologies and graphs** as components of broader hybrid AI systems used in various NLT markets, such as text mining or conversational systems.
- ▶ **Semantic search** as an important part of Insight Engines, as it complements the underlying search technology.
- ▶ **Text auto-classification**, which is used for automation purposes (e.g., within platforms for content services, RPA, etc.).

Selected Customer References and Partners

We work with Global Fortune Companies, and with some of the largest GOs and NGOs from over 20 countries.



Selected Customer References

- Credit Suisse
- Boehringer Ingelheim
- Roche
- adidas
- The Pokémon Company
- Fluor Corporation
- Harvard Business School
- Wolters Kluwer
- Philips
- RGP
- Becton Dickinson
- Springer Nature
- Novartis
- Healthdirect Australia
- Healthstream
- Walmart
- Oxford University Press
- International Atomic Energy Agency
- Dutch Parliament
- Microsoft
- Inter-American Development Bank

Selected Partners

- RWS
- Enterprise Knowledge
- Tahzoo
- Ontotext
- Oxford Semantic Technologies
- data.world
- Capco
- Taxonomy Strategies
- Mekon
- Factor
- Ordina
- BAON Enterprises
- Tieto/Findwise
- PANTOPIX
- The QA Company
- MMG Management Consulting
- Kompetenzzentrum Records Management (KRM)
- Cambrica

- ▶ Introduction: Why Taxonomies and Tagging
 - ▶ Use Cases to Connect to Content
 - ▶ Search Challenges
- ▶ Benefits of Managed Metadata/Taxonomies
- ▶ Challenges of Managed Metadata/Taxonomies
 - ▶ Taxonomy Design Issues and Tips
 - ▶ Taxonomy Governance
- ▶ Auto-Tagging
- ▶ Central Taxonomy Management

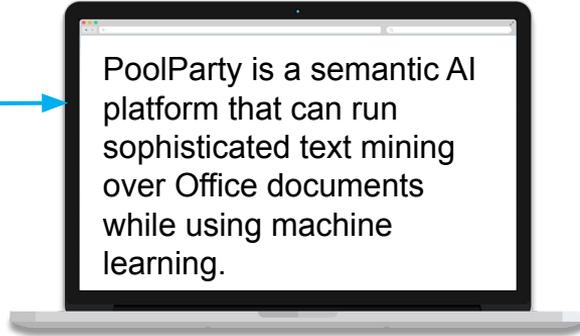
A light grey background with a network diagram of white circles connected by thin white lines, representing a complex web of relationships or data points.

Introduction: Why Taxonomies & Tagging

Why Taxonomies:

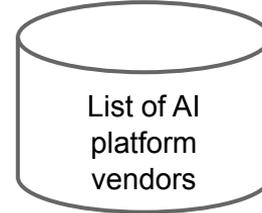
Connecting Content to People, Intents, and Other Data

Product Information



User Intent

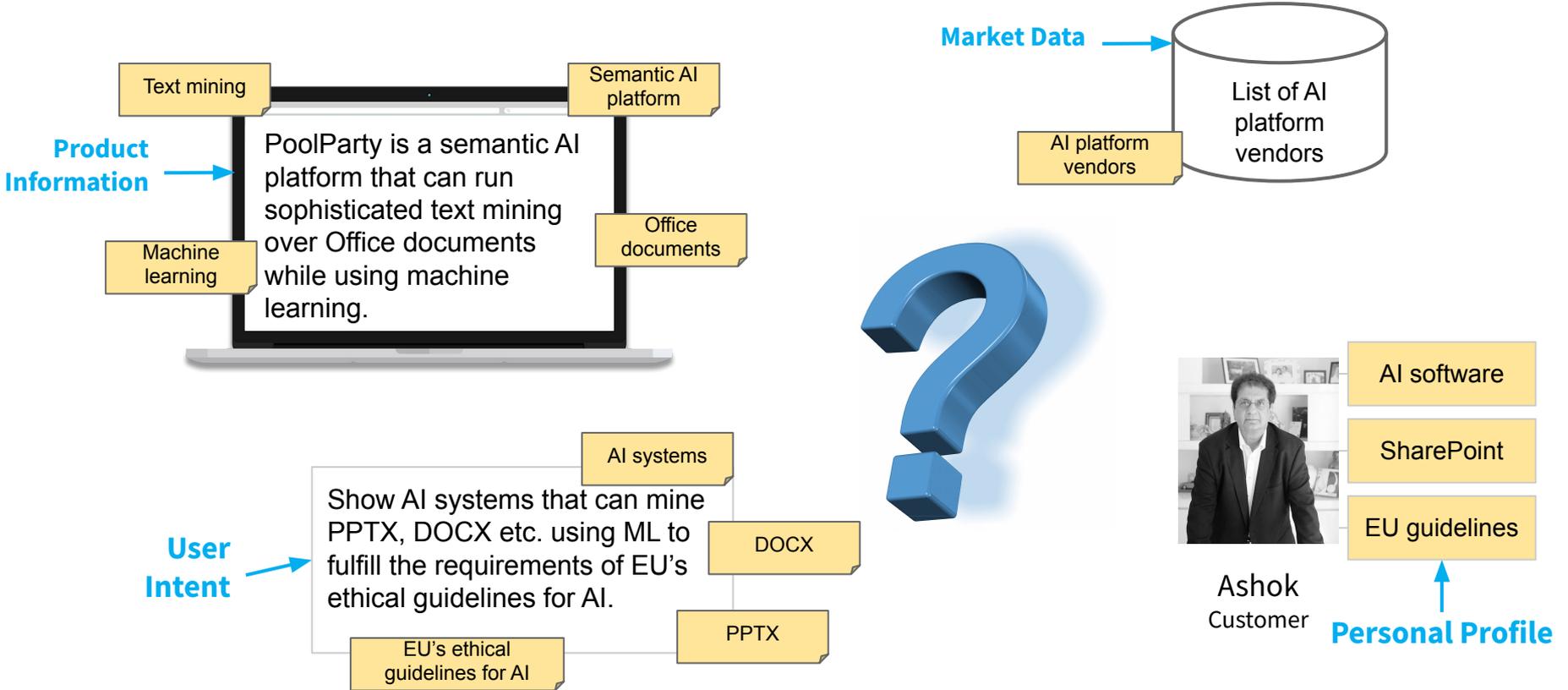
Show AI systems that can mine PPTX, DOCX etc. using ML to fulfill the requirements of EU's ethical guidelines for AI.



Ashok
Customer

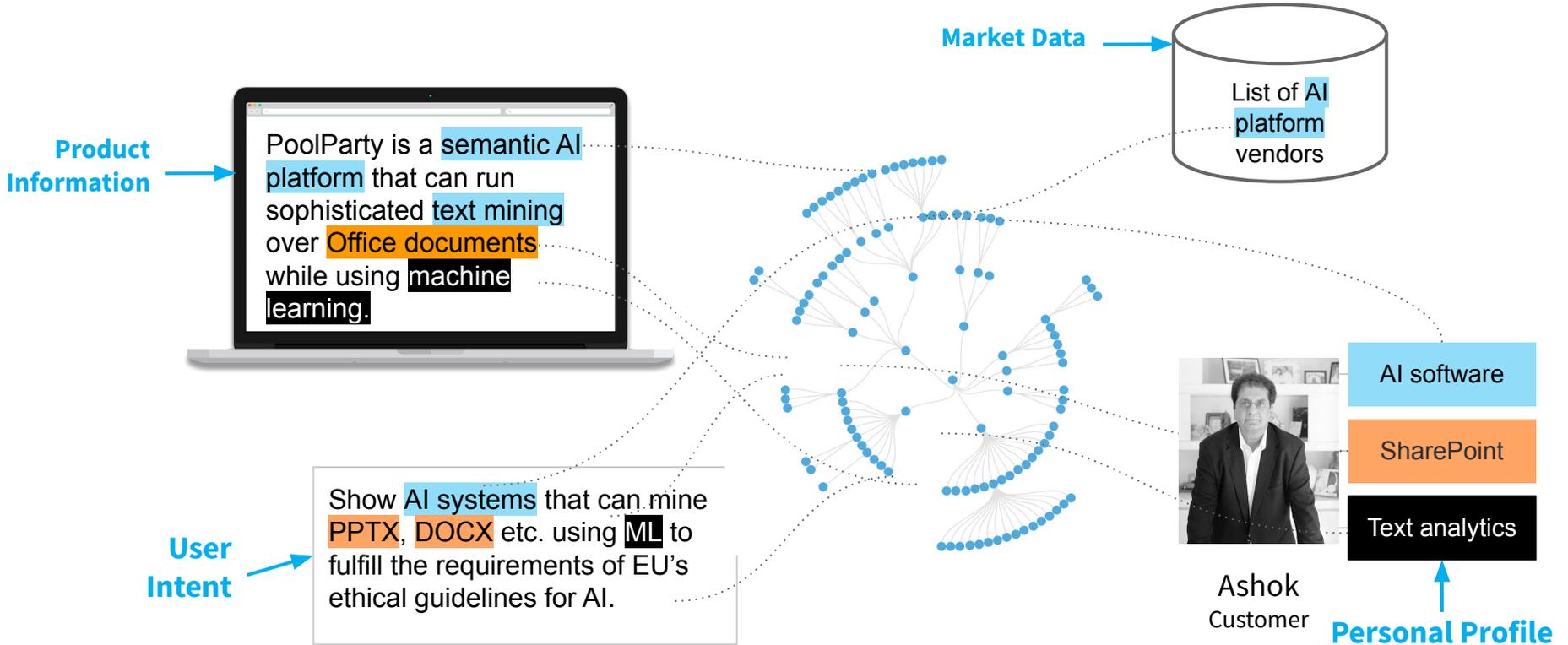
Why Taxonomies:

Connecting Content to People, Intents, and Other Data



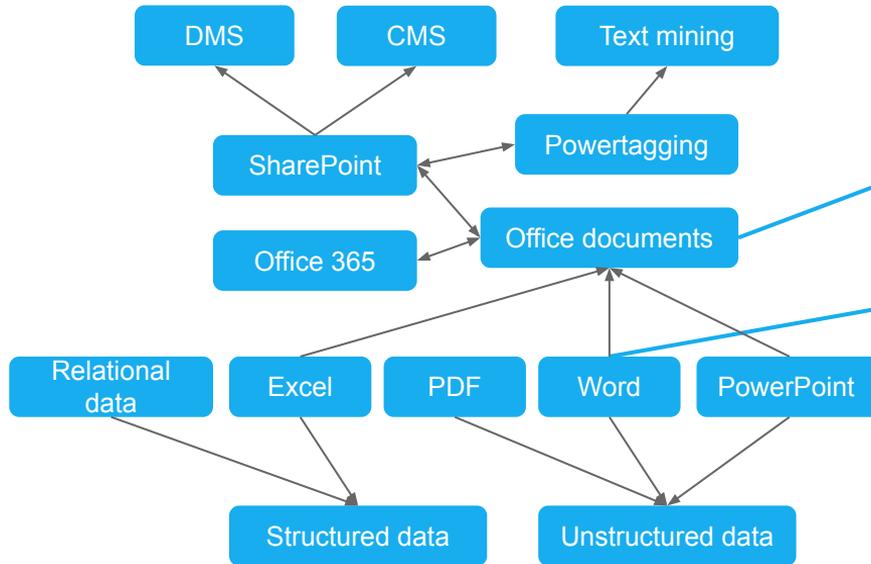
Why Taxonomies:

Connecting Content to People, Intents, and Other Data



Why Taxonomies:

Connecting Content to People, Intents, and Other Data



PoolParty is a semantic AI platform that can run sophisticated text mining over Office documents while using machine learning.

Show AI systems that can mine PPTX, DOCX etc. using ML to fulfill the requirements of EU's ethical guidelines for AI.

Why Taxonomies:

Connecting Content to People, Intents, and Other Data

The screenshot displays the PoolParty Semantic AI platform interface. On the left, a taxonomy tree is visible with categories such as 'Document management systems (4)', 'Human Resource Management System (2)', 'Monitoring systems (1)', 'NoSQL databases (2)', 'Operating systems (3)', 'Product information management systems (0)', 'Relational databases (1)', 'Search engines (2)', 'Semantic Web technology (3)', 'Software and systems engineering tools (7)', 'Task and issue management software (1)', 'Topics (6)', 'Activities and methods (38)', 'Business and technology issues (8)', 'Data (8)', 'Digital rights (2)', and 'Regulations and directives (2)'. The 'Office documents (3)' category is highlighted in orange. The main panel shows the 'Office documents' concept details, including a URL, SKOS identifier, and various concept relationships. The 'Broader Concepts' section lists 'Unstructured data'. The 'Narrower Concepts' section lists 'Microsoft Excel', 'Microsoft Powerpoint', and 'Microsoft Word'. The 'Related Concepts' section lists 'Office 365' and 'SharePoint'. The 'Top Concept of Concept Schemes' section lists 'Office 365' and 'SharePoint'. The 'Exact Matching Concepts' section lists 'http://dbpedia.org/resource/Microsoft_Office'. The 'Preferred Label' section lists 'Office documents'. The 'Alternative Labels' section lists 'documents in Office 365', 'Microsoft Office document', and 'Office files'. The 'Hidden Labels' section is empty. The 'Notation' section is empty. The 'Scope Notes' section is empty. The 'Example' section is empty. The 'Definitions' section is empty.

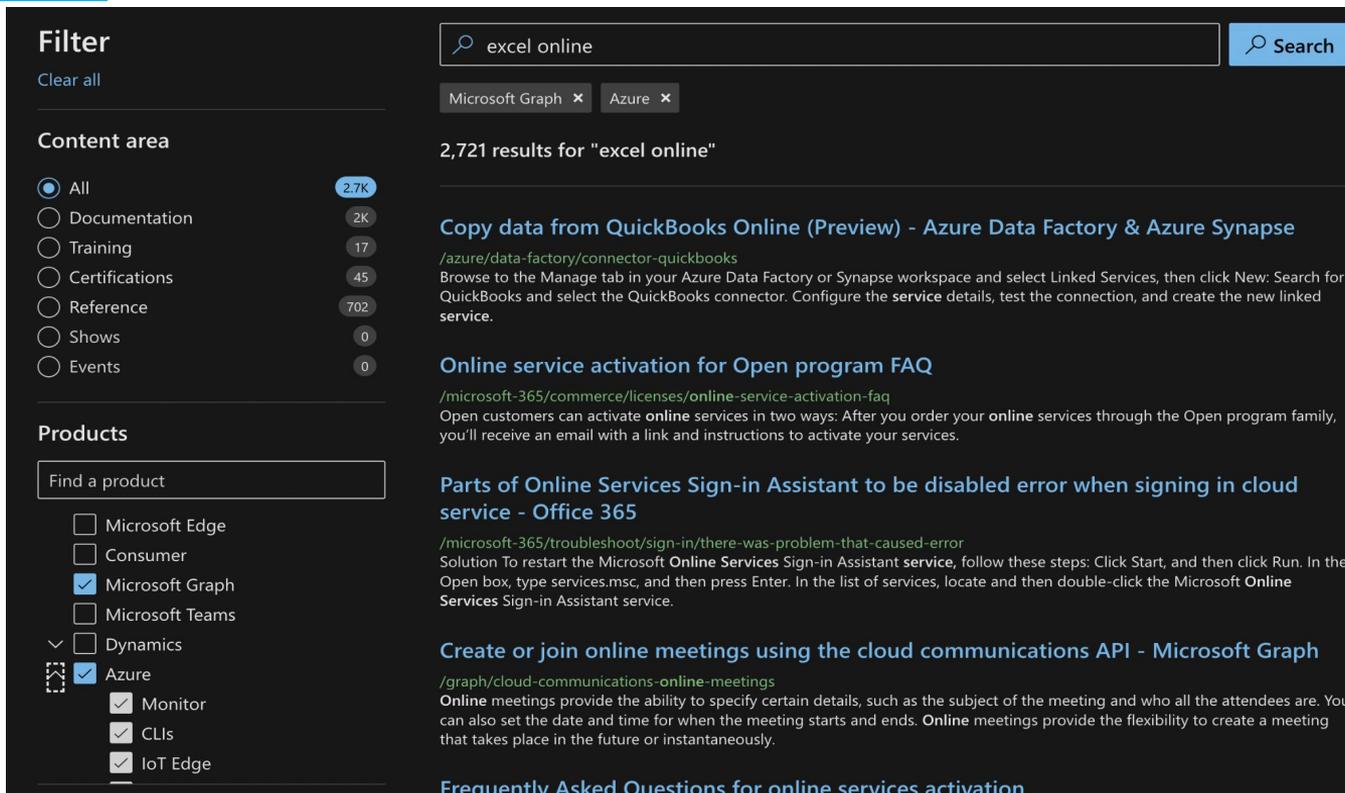
PoolParty is a semantic AI platform that can run sophisticated text mining over Office documents while using machine learning.

Show AI systems that can mine DOCX, PPTX etc. using ML to fulfill the requirements of EU's ethical guidelines for AI.

Example Use Case

Organization	Large multinational technology company
Use case	Developer community needs to find online documentation.
Objective	Consistently and efficiently tag the online documentation
Solution	<ul style="list-style-type: none">• Continually update and manage a taxonomy in a taxonomy management system (PoolParty).• Autotag content: indexer/crawler is run each day to pick up any content that has changed.• Implement with search in front end.

Why Taxonomies and Tagging



Filter
Clear all

Content area

- All 2.7K
- Documentation 2K
- Training 17
- Certifications 45
- Reference 702
- Shows 0
- Events 0

Products

Find a product

- Microsoft Edge
- Consumer
- Microsoft Graph
- Microsoft Teams
- Dynamics
- Azure
 - Monitor
 - CLIs
 - IoT Edge

Search: excel online

Microsoft Graph x Azure x

2,721 results for "excel online"

Copy data from QuickBooks Online (Preview) - Azure Data Factory & Azure Synapse
[/azure/data-factory/connector-quickbooks](#)
Browse to the Manage tab in your Azure Data Factory or Synapse workspace and select Linked Services, then click New: Search for QuickBooks and select the QuickBooks connector. Configure the service details, test the connection, and create the new linked service.

Online service activation for Open program FAQ
[/microsoft-365/commerce/licenses/online-service-activation-faq](#)
Open customers can activate **online** services in two ways: After you order your online services through the Open program family, you'll receive an email with a link and instructions to activate your services.

Parts of Online Services Sign-in Assistant to be disabled error when signing in cloud service - Office 365
[/microsoft-365/troubleshoot/sign-in/there-was-problem-that-caused-error](#)
Solution To restart the Microsoft **Online Services** Sign-in Assistant service, follow these steps: Click Start, and then click Run. In the Open box, type services.msc, and then press Enter. In the list of services, locate and then double-click the Microsoft **Online Services** Sign-in Assistant service.

Create or join online meetings using the cloud communications API - Microsoft Graph
[/graph/cloud-communications-online-meetings](#)
Online meetings provide the ability to specify certain details, such as the subject of the meeting and who all the attendees are. You can also set the date and time for when the meeting starts and ends. Online meetings provide the flexibility to create a meeting that takes place in the future or instantaneously.

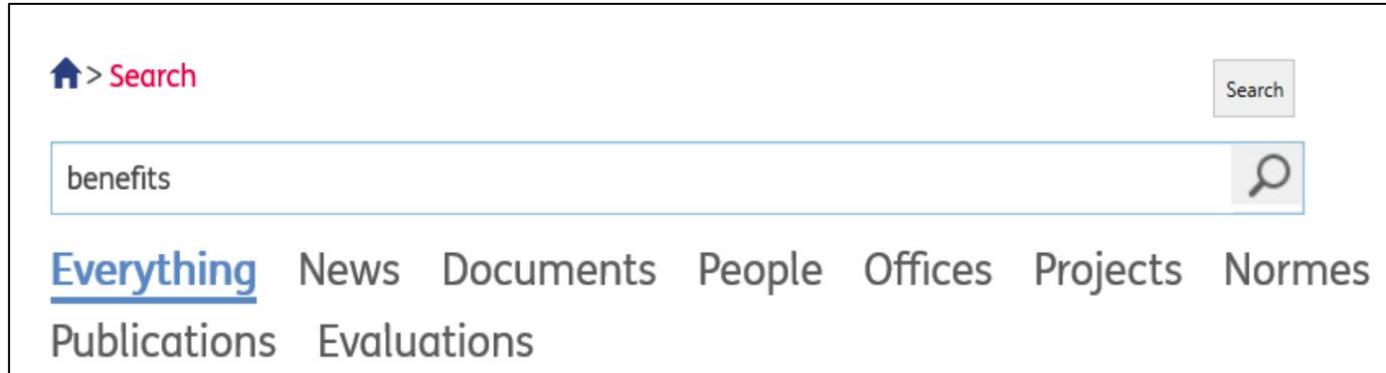
Frequently Asked Questions for online services activation.

Example Use Case with SharePoint

Organization	Green Climate Fund 
Use case	Managing over 100,000 documents in different subject domains in numerous SharePoint libraries to support internal knowledge management
Objective	Enhancement of search experience
Solution	<ul style="list-style-type: none">• Manage a taxonomy in a taxonomy management system (PoolParty)• Sync taxonomy with SharePoint Term Store and support NLP-based auto tagging (PoolParty PowerTagging for SharePoint)

Why Taxonomies and Tagging: Search Issues

Search (in SharePoint or in general) is good, but not perfect.



- ▶ What are the issues?

Why Taxonomies and Tagging: Search Issues



User Objectives

- ▶ Finding the right information quickly
- ▶ Finding sufficient information
- ▶ Discovering related relevant information not known to search for
- ▶ Being confident that the information is complete
- ▶ Being able to expand and limit the search
- ▶ Having results that can be trusted and are explainable

User Expectations

- ▶ Getting search results as comprehensive as web search results

Why Taxonomies and Tagging: Search Issues



Organization Objectives

- ▶ Saved time through efficient search
- ▶ Knowledge discovery
- ▶ Cost savings through content reuse
- ▶ Better decisions from complete information
- ▶ Improved employee and customer satisfaction
- ▶ Improved competitiveness through better information

Internal Search User Pain Points

- ▶ Retrieving false search results
 - ▷ Wasting time reading through irrelevant information
- ▶ Not confident that that *all* relevant information was retrieved
 - ▷ Not finding content believed to exist
 - ▷ Not knowing *if* the desired information exists
- ▶ Repeating searches in different, unconnected content repositories

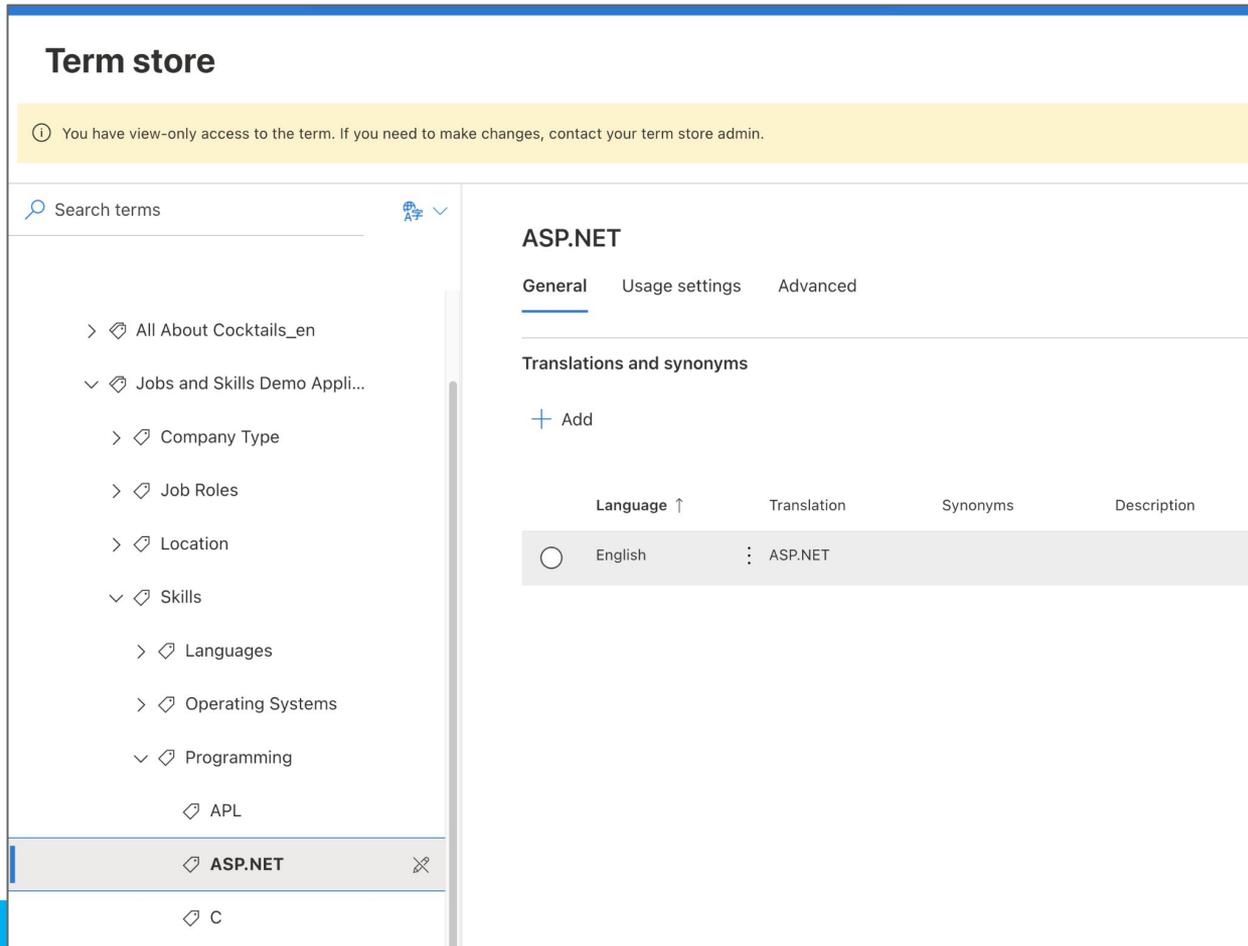


A light grey background with a network diagram of white circles connected by thin white lines, representing a complex web of relationships or data points.

Benefits of Managed Metadata/ Taxonomies

Solution: Metadata & Taxonomies

SharePoint
Term store for
managing
metadata/
taxonomies



Term store

① You have view-only access to the term. If you need to make changes, contact your term store admin.

Search terms

- > All About Cocktails_en
- Jobs and Skills Demo Appli...
 - > Company Type
 - > Job Roles
 - > Location
- Skills
 - > Languages
 - > Operating Systems
- Programming
 - APL
 - ASP.NET**
 - C

ASP.NET

General Usage settings Advanced

Translations and synonyms

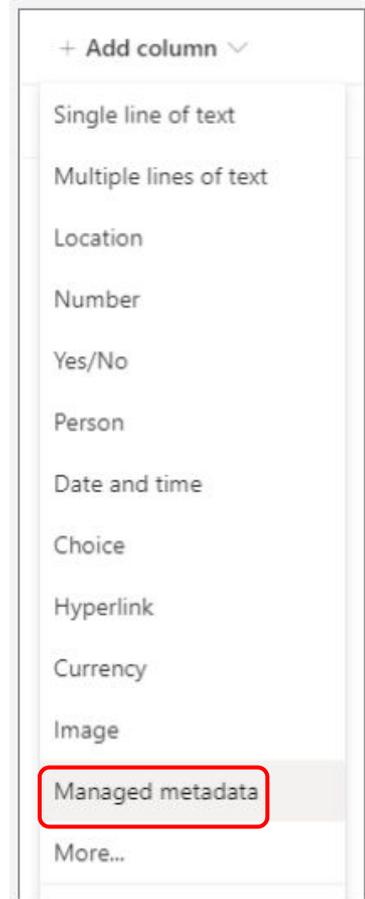
+ Add

Language ↑	Translation	Synonyms	Description
<input type="radio"/> English	: ASP.NET		

Solution: Metadata & Taxonomies

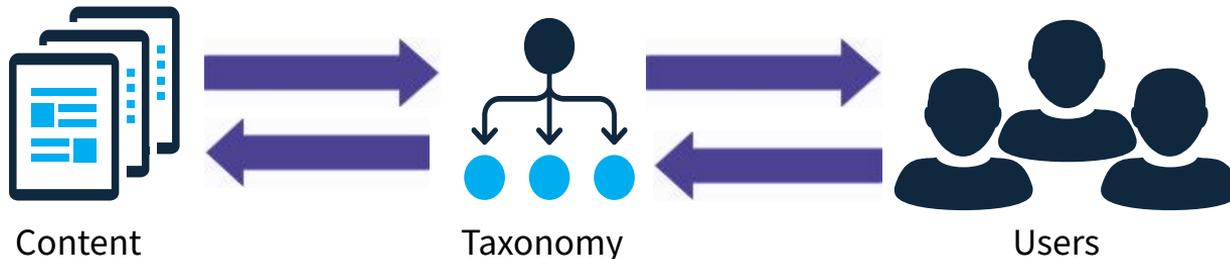
In general	In SharePoint	Description
Metadata	Column type	Organized data about data/content, grouped into consistent types/elements/properties/fields/columns, filled with a specific value for each content item.
Taxonomy	Managed metadata (what is managed in the Term Store)	Metadata type that uses a controlled vocabulary and is structured into subsets and/or hierarchies

A taxonomy is a source of values for a metadata type (e.g. “managed metadata”).



What and why taxonomies?

- ▶ A taxonomy is a controlled vocabulary organized into a hierarchical structure.
- ▶ Concepts/terms are used to tag/index/categorize content to make it easier to be found and retrieved
 - ▷ supporting better findability than search alone
- ▶ The taxonomy is an intermediary that links the user to the desired content.



- ▶ Terms are based on unambiguous concepts, rather than using text strings.
- ▶ “Things, not strings.”

Benefits of taxonomies

- ▶ Providing consistent terms for tagging
- ▶ Bringing together synonyms for the same concept
- ▶ Organizing terms in to refinement filters
- ▶ Organizing terms into guiding hierarchies
- ▶ Supporting term definitions and
- ▶ Supporting multilingual concepts
- ▶ Potential to link to other taxonomies and thus other content/data

Benefits of Taxonomies

Providing consistent terms for tagging and retrieval

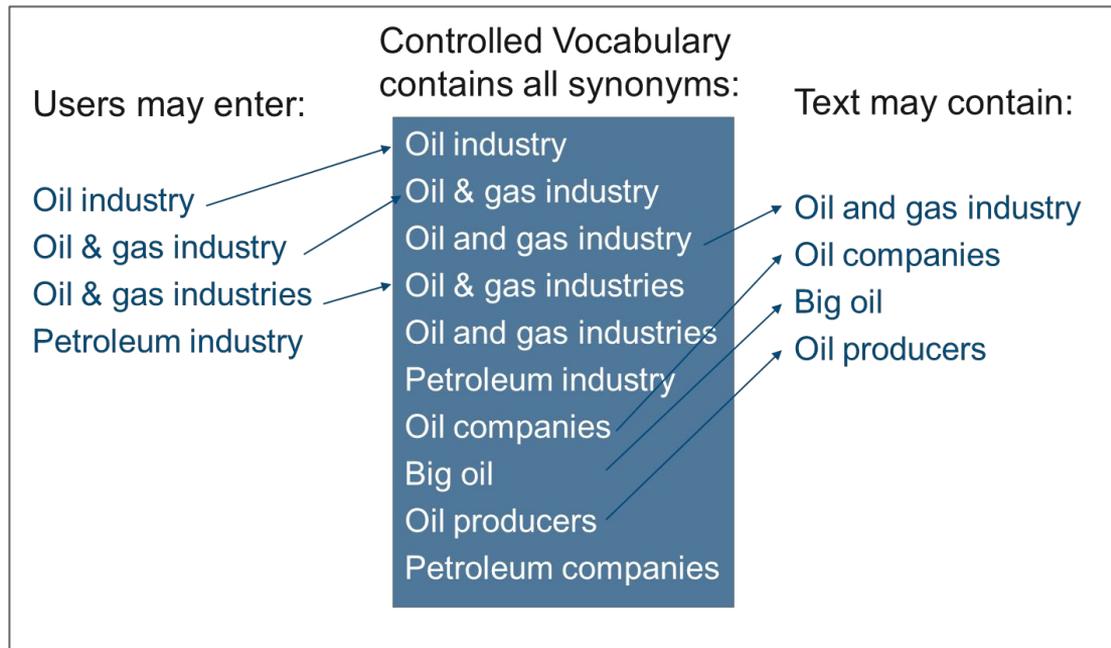
Potential inconsistent tagging for the same document without a controlled vocabulary:

Author	Doc Type	Subject	Source	Region
John Smith	Article	Financial	Finance	U.S.A
J. Smith	Report	Finance	Finance Dept.	United States
John A. Smith	Document	Corporate financials	XYZ Company	New York
Smith, John	Summary	Profit/Loss	(unknown)	NY

Benefits of Taxonomies

Bringing together synonyms for the same term:

- ▶ Retrieves content containing different synonyms for the same thing.
- ▶ Supports searchers using different synonymous search strings find the same relevant content.



Benefits of Taxonomies

Organizing terms into search refinement filters

Department

- Research
- Sales
- Finance
- Marketing
- Exec. Office
- SHOW MORE

Job Title

- Communications Director
- Developer
- Financial Controller
- Finance Assistant
- Head of IT Services
- SHOW MORE

Office Location

- London
- New York
- Shanghai

For people

File Type

- Word

Document Type

- Feature Overview
- Technical Specifications

Item Type

- Project Document

Project

- All
- CRM Support

Sprint

- Sprint 23
- Sprint 22

For documents

Result type

- Word

Author

- User1
- System Account
- AATISH AGARWAL
- SHOW MORE

Modified date

All

Community

- Technical
- Recreational
- Other Value
- Apply | Clear

Language

- English
- German

Content Manager

- TechNet Library (7)
- OfficeOnlineVNext (2)
- MSDN Code Gallery (1)
- MSDN Library (1)
- MSN Video (1)
- Other Value
- Apply | Clear

Distribution Channel

- Other Value
- Apply | Clear

Request status

- Published (12)
- Other Value
- Apply | Clear

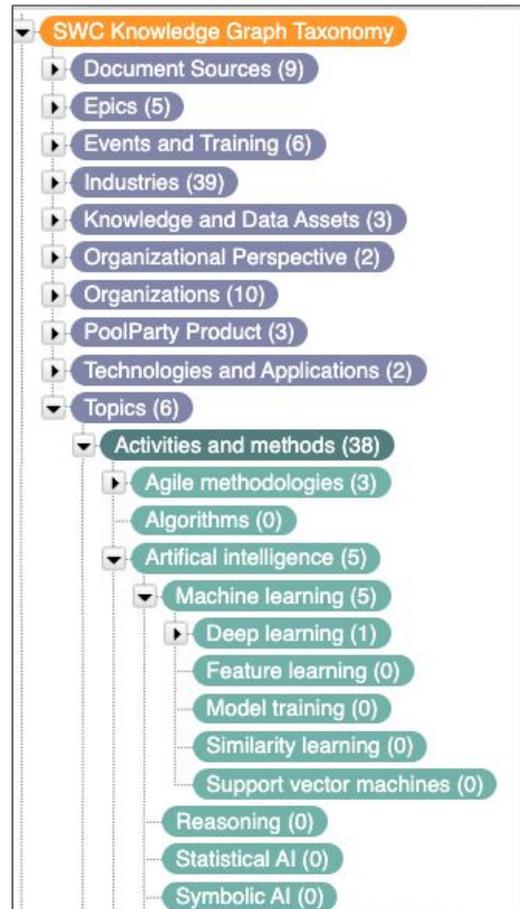
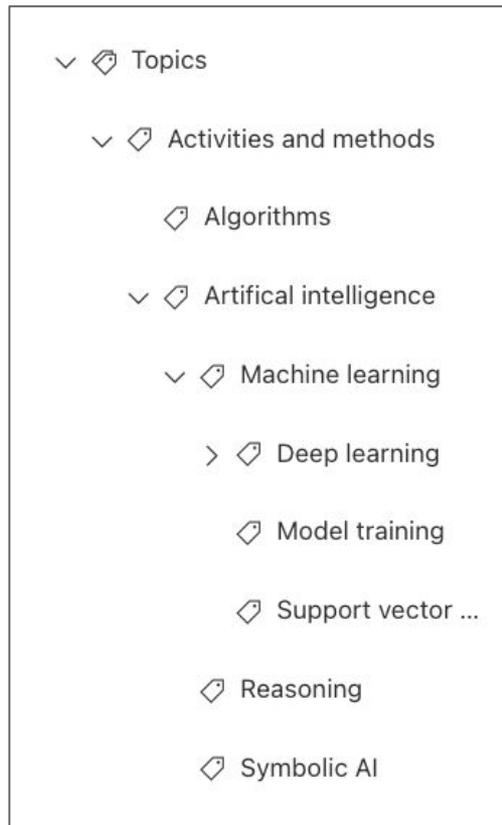
Content Type

- HVC library content item (8)
- OCMS article (2)
- Code Gallery content (1)
- Video content (1)
- Other Value
- Apply | Clear

Internal Writer

Benefits of Taxonomies

Organizing terms into hierarchies to guide users to specific topics



Supporting term definitions/notes for clarification

Data management			
General	Usage settings	Advanced	
Translations and synonyms			
+ Add			
Language ↑	Translation	Synonyms	Description
English	Data management	Data wrangling, Integrated data management	Data management comprises all the disciplines related to managing data as a valuable resource.

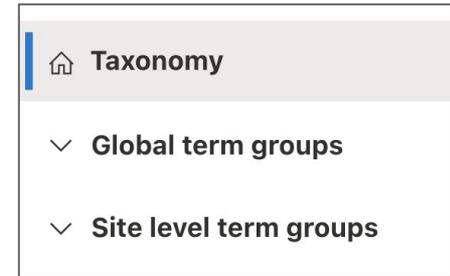
SharePoint can make use of taxonomies various ways

1. As facets or post-search refinement/filters
2. Metadata terms for filtering or sorting columns of content items (documents, images, etc.) in document libraries
3. Implemented in navigation as menu labels, headers, and page URL names
4. Search support (with synonyms), along with added technologies
5. As a hierarchical model for naming and organizing libraries and folders



Taxonomy management in SharePoint Term Store features

- ▶ Multiple taxonomies or multiple facets
- ▶ Unique identifiers on terms
- ▶ Hierarchical taxonomies, many levels deep
- ▶ Synonyms, also called “Other labels,” in support of tagging
- ▶ Scope notes or definitions in a “Description” field
- ▶ Type-ahead search on taxonomy terms and on synonyms for those tagging
- ▶ Can create broader categories, which are not terms for tagging, to group terms
- ▶ Customizable sort order of terms at the same level





PowerTagging Search

Taxonomy search demo



PowerTagging Search

Search Filters

- Concept schemes:**
- Knowledge and Data Assets
 - Topics
 - Technologies and Applications
 - Epics
 - Industries

- [+] Knowledge and Data Assets
- [+] Topics
- [+] Technologies and Applications
- [+] Epics
- [+] Industries

SWC Knowledge Graph Taxonomy

Enterprise knowledge graphs

Include text-based search results

Enterprise knowledge graphs

Synonyms:
EKGs, EKG

More general concepts:
Knowledge graphs

Search

Total number of results: 5

[the-enterprise-knowledge-graph---a-definition.html](#)



The Enterprise Knowledge Graph - A Definition Abstract The Enterprise Knowledge Graph - A Definition An Enterprise Knowledge Graph (EKG) contains business objects and topics that ...

Enterprise knowledge graphs Data

Why This Book



A background network diagram consisting of various sized grey circles connected by thin grey lines, creating a complex web of connections.

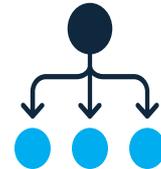
Challenges and Enhancements with Taxonomies

Challenges with Metadata & Taxonomies

1. Poorly designed and managed metadata and taxonomies
2. Poorly applied metadata or taxonomy tagging
3. Taxonomies and metadata residing within separate applications, siloed

1. Poorly designed and managed metadata and taxonomies

- ▷ Metadata or taxonomy terms vague or not clearly distinguished
- ▷ Taxonomies too specific or too general
- ▷ Too many, or too few metadata columns or term sets
- ▷ Incorrect hierarchies
- ▷ Too many or too few synonyms for terms



▶ Addressed by:

- ▷ Elevate taxonomy development to a funded project
- ▷ Obtain taxonomy training and/or contract a taxonomy consultant
- ▷ Manage taxonomies in a full-featured taxonomy management system, connected to your applications(s)

2. Poorly applied metadata or taxonomy tagging

- ▷ Insufficient tagging - content cannot be found
- ▷ Over-tagging - taxonomy terms retrieve too many irrelevant results
- ▷ Inconsistent tagging - search results aren't comprehensive;

▶ Addressed by Auto-tagging

- ▷ For more comprehensive, consistent, and faster tagging
- ▷ Semantic tagging tags terms and not just words
- ▷ Use technologies: text mining, NLP, NER
- ▷ Auto-tagging with human review to identify improvements



3. Taxonomies and metadata residing within separate applications, siloed

- ▷ Separate taxonomies for each CMS or other application
- ▷ Taxonomies managed by different groups
- ▷ Lack of central taxonomy governance



▶ Addressed by:

- ▷ Centrally managing taxonomy and metadata in dedicated taxonomy management system, as middleware, connected to other systems
- ▷ Documentation and creating and following a taxonomy governance plan to manage taxonomy change

Selected Taxonomy Design Tips

- ▶ **Granularity:** Create terms that are common enough to tag multiple documents, but specific enough to be useful and not tagged to too many documents.
- ▶ **Synonyms:** Create sufficient but not excessive alternative labels (synonyms), to support comprehensive but not incorrect excessive tagging.
- ▶ **Structure:** Group taxonomy terms into term sets for facets/refinements that are useful and intuitive for refining searches, based on user research.
- ▶ **Standards:** Balance following thesaurus standards with providing a good *customized* user experience, especially with hierarchy.

Addressing Taxonomy Design Issues

SharePoint

 SEMANTIC WEB COMPANY [Home](#) [My all about cocktails](#) [Renewable Energy](#) [Job descriptions](#) [Models](#) ... [Edit](#)

+ New  Page details  Analytics

Search PowerTagging by tags

No search results to refine

Reagle Thesaurus |

- grid-connected wind power systems
- on-shore windparks
- off-shore windparks
- wind farms

Taxonomy Governance

Taxonomies need to adapt to growth and change of terms.

- ▶ **Plan:** Begin addressing governance issues from the start of creating a taxonomy
- ▶ **Scope:** Identify all the kinds of changes, and policies for each kind
- ▶ **Roles and Responsibilities:** Identify *who* makes and approves changes
- ▶ **Policies and Procedures:** Determine *how* changes are suggested and approved
- ▶ **Documentation:** Document the taxonomy and governance policies
 - ▷ Taxonomy description
 - ▷ Taxonomy updating style guide
 - ▷ Tagging policies



A light grey background with a network diagram of white circles and lines. A large blue rectangle is on the left side, containing the title text.

Auto-Tagging: PoolParty PowerTagging

Tagging with a Taxonomy

- ▶ Auto-tagging improves comprehensive, consistent, and faster tagging.
- ▶ Use semantic tagging to tag terms and not just words
- ▶ Use technologies: text mining, NLP, NER
- ▶ Implement auto-tagging with human review to identify improvements



Term/entity extraction - tagging example

Work From Home During the COVID-19 Outbreak

The Impact on Employees' Remote Work Productivity, Engagement, and Stress

Objective:

The COVID-19 pandemic made working from home (WFH) the new way of working. This study investigates the impact that family-work conflict, social isolation, distracting environment, job autonomy, and self-leadership have on employees' productivity, work engagement, and stress experienced when WFH during the pandemic.

Methods:

This cross-sectional study analyzed data collected through an online questionnaire completed by 209 employees WFH during the pandemic. The assumptions were tested using hierarchical linear regression.

Results:

Employees' family-work conflict and social isolation were negatively related, while self-leadership and autonomy were positively related, to WFH productivity and WFH engagement. Family-work conflict and social isolation were negatively related to WFH stress, which was not affected by autonomy and self-leadership.

Extraction Results

Named Entities

Concepts

Important Terms

Document Classification

Term	Score	Frequency
job		58
employees		36
covid-19		1
remote		36
productivity		26
resources		32
work engagement		12
conflict		18
social isolation		12
demands		19
work		100
personal		17
variables		12
workers		16
stress		27

[Demo: PoolParty Auto-Classification](#)

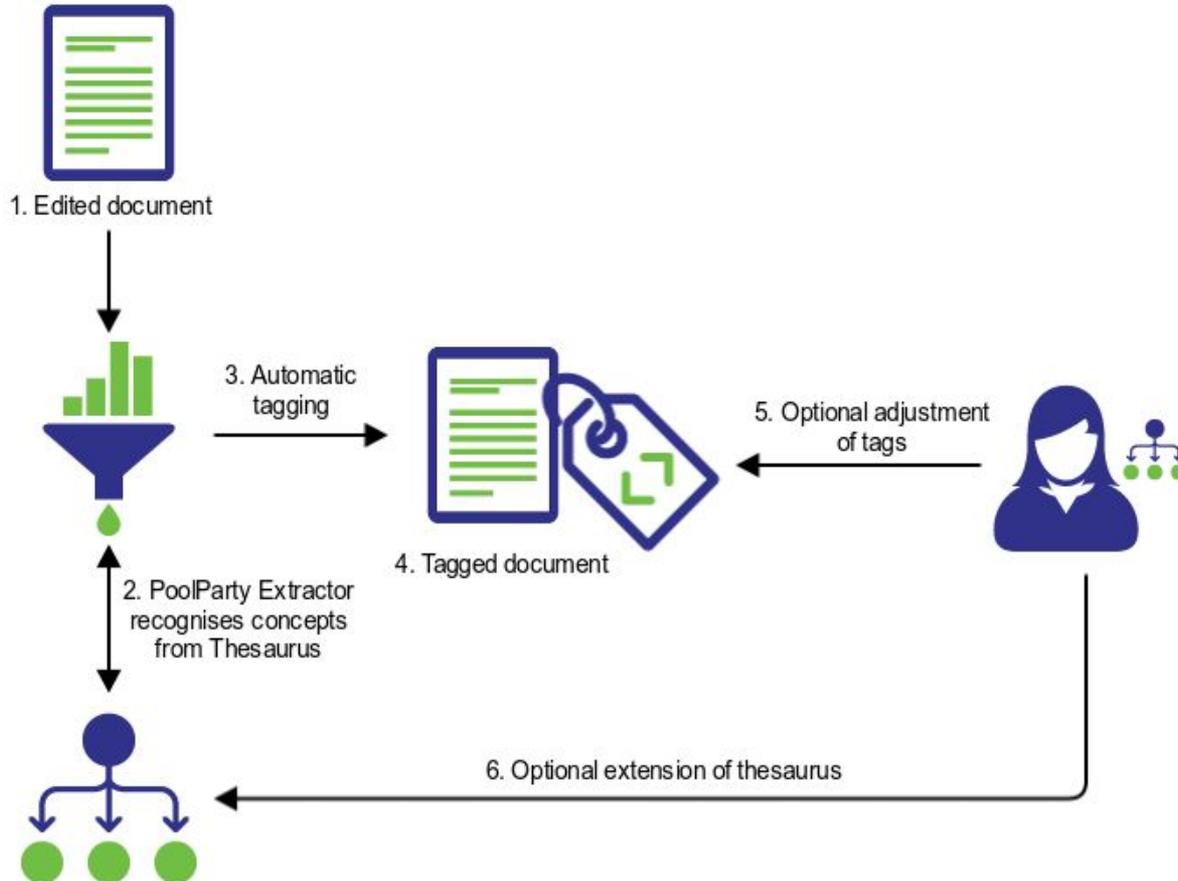
Auto-tagging components in PoolParty

- ▶ **Concepts**, extracted through Concept extraction based on PoolParty Extractor and taxonomies.
- ▶ **Shadow Concepts**, to extract concepts that are not explicitly mentioned in a document, but are nevertheless implicitly relevant to it.
- ▶ **Named Entities**, extracted through NER (Named Entity Recognition) based on machine learning algorithms.
- ▶ **Important terms**, identified through statistical text analysis.
- ▶ **Document genre**, identified by ML-based classification algorithms.

Auto-tagging configuration:

- ▶ Concepts can be configured for **Exact label** match only (including capitalization)
- ▶ **Blacklist** of concepts and terms *not* to be tagged
- ▶ **Disambiguation** based on graph and context
- ▶ **Negation rules**

Auto-Tagging with PoolParty



Tagging with a Taxonomy

SharePoint Search this library

SEMANTIC WEB COMPANY Home My all about cocktails Renewable Energy Job descriptions Models Power Tagging Search ... Edit Not following

+ New Edit in grid view Open Share Copy link Download Classify and extract Delete 1 selected All Documents

Renewable Energy

Name	Modified	Modified By	Tags
+++ a plan for honouring our ...	Tuesday at 4:06 AM	Alexi Lopez-Lorca	climate change 100 emissions 72 carbon 41 greenhouse gas emissions 37 bioenergy power plants factoring-out
+++ Bioelectricity_promotion_EU.pdf	Sunday at 8:11 AM	SharePoint App	biomass 100 electricity generation 81 renewable energies 52 international development 35 bioenergy 28
(2005) wind support m...	August 22	SharePoint App	wind 100 renewable energies 75 windpower 66 international development 51 electricity generation 37
policy programme.pdf	August 22	SharePoint App	emissions 100 carbon dioxide 73 anthropogenic climate change 67 greenhouse gas emissions 66 Kyoto Protocol 48
... EC BES May 2004 report.pdf	August 22	SharePoint App	renewable energies electricity generation biomass

Demo of PoolParty PowerTagging for SharePoint

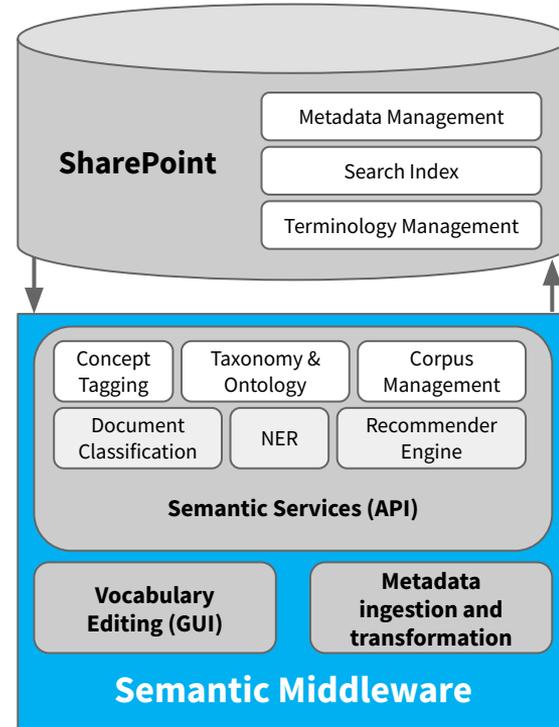
A light grey background with a network diagram of white circles connected by thin white lines, representing a complex web of relationships or data points.

Centrally Managed Taxonomy in Middleware (PoolParty)

Centrally Managed Taxonomies in Semantic Middleware

We have SharePoint, why do we need a Semantic Middleware?

Semantic Middleware (such as PoolParty) offers more services Enhancing SharePoint and Office 365, with auto-tagging, rich taxonomy and ontology, corpus management, classification, better taxonomy management UI.

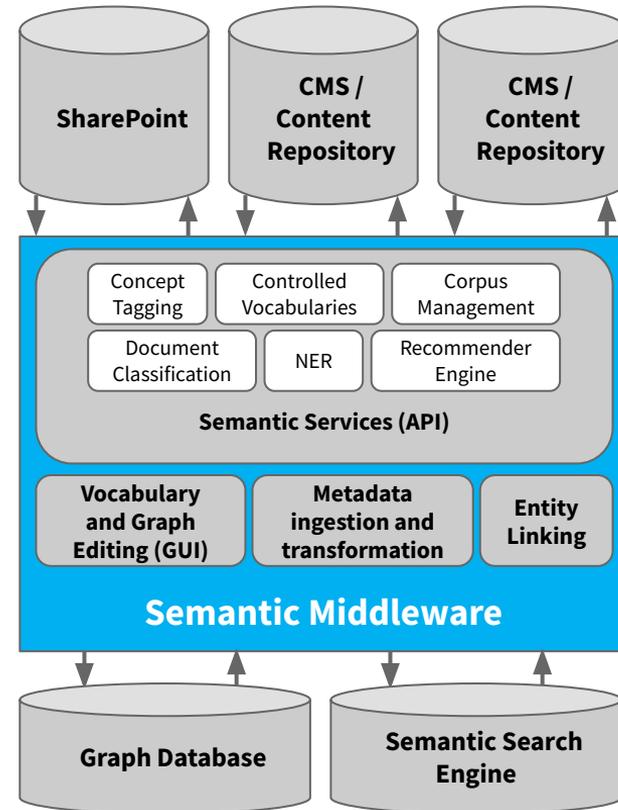


We have several CMSs, why do we need a Semantic Middleware?

The multi-source scenario

Semantic Middleware spans an umbrella over existing content management systems, including SharePoint, to link them together.

The meaning of all content becomes interpretable independent of the inherent logic of individual content silos. 360-degree views will become possible.



What can be built on top of SharePoint to extend Term Store functionality in dedicated taxonomy management middleware:

- ▶ Synonyms supported in search in addition to tagging
- ▶ Supporting thesaurus quality standards (preventing duplicates, circular references, same terms as both preferred and synonyms)
- ▶ Managing multiple linked taxonomies
- ▶ Supporting associative (non-hierarchical relationships)
- ▶ Support for polyhierarchy
- ▶ Supporting additional attributes for terms
- ▶ Full compliance with W3C standards for vocabularies (SKOS) for import/export interoperability
- ▶ Link to content tagged in different systems (other than SharePoint), with a central frontend
- ▶ Optimized taxonomy management UI

Centrally Managed Taxonomies in Semantic Middleware



Term store

You have view-only access to the term. If you need to make changes, contact your term store admin.

Search terms

- Microsoft Search
- Content services
- Term store
- Content type gallery

Taxonomy

- Global term groups
 - Topics
 - Activities and methods
 - Algorithms
 - Artificial intelligence
 - Machine learning**
 - Deep learning
 - Model training
 - Support vector machines
 - Reasoning
 - Symbolic AI
 - Tensor network theory
 - Content management
 - Data governance
 - Data management
 - Database querying

SWC Knowledge Graph Taxonomy

- Document Sources (9)
- Epics (5)
- Events and Training (6)
- Industries (39)
- Knowledge and Data Assets (3)
- Organizational Perspective (2)
- Organizations (10)
- PoolParty Product (3)
- Technologies and Applications (2)
- Topics (6)
 - Activities and methods (38)
 - Agile methodologies (3)
 - Algorithms (0)
 - Artificial intelligence (5)
 - Machine learning (5)**
 - Deep learning (1)
 - Feature learning (0)
 - Model training (0)
 - Similarity learning (0)
 - Support vector machines (0)
 - Reasoning (0)
 - Statistical AI (0)
 - Symbolic AI (0)
 - Tensor network theory (0)
 - Content management (0)
 - Contextual advertising (0)
 - Data analytics (3)
 - Database querying (2)
 - Data engineering (0)
 - Data governance (3)
 - Data management (14)
 - Design thinking (0)
 - E-learning (0)
 - Enterprise architecture (2)
 - Graph embedding (0)

Machine learning

<https://internal.semantic-web.at/swcwg/16473766-2793-40e0-8b76-9d0585b37657>

+ Add to Collection - Add to Blacklist - Add to ExactMatch Delete Concept

Details	Notes	Documents	Linked Data	Triples	Visualization	Quality Management	History
SKOS SWC KG - GS Scheme							
Broader Concepts Artificial intelligence				Preferred Label <input checked="" type="checkbox"/> Machine learning			
Narrower Concepts Deep learning Feature learning Model training Similarity learning Support vector machines				Alternative Labels <input checked="" type="checkbox"/> Adaptive machine learning <input checked="" type="checkbox"/> Computer machine learning <input checked="" type="checkbox"/> Dictionary learning <input checked="" type="checkbox"/> Feature discovery <input checked="" type="checkbox"/> Learning algorithm <input checked="" type="checkbox"/> Learning algorithms <input checked="" type="checkbox"/> List of open-source machine learning software <input checked="" type="checkbox"/> ML <input checked="" type="checkbox"/> Statistical learning			
Related Concepts <input checked="" type="checkbox"/> Algorithms <input checked="" type="checkbox"/> Data mining and machine learning software				Hidden Labels <input type="checkbox"/>			
Top Concept of Concept Schemes <input checked="" type="checkbox"/>				Scope Notes <input type="checkbox"/>			
				Definitions <input checked="" type="checkbox"/> Machine learning is the subfield of computer science that 'gives computers the ability to learn without being explicitly programmed' (Arthur Samuel, 1959). Evolved from the study of pattern recognition and computational learning theory in artificial intelligence, machine learning explores the study and construction of algorithms that can learn from and make predictions on data –			

Centrally Managed Taxonomies in Semantic Middleware



The screenshot displays a SharePoint interface for a site titled "SEMANTIC WEB COMPANY". The top navigation bar includes a search box labeled "Search this site" and a settings icon. Below the navigation bar, the site's breadcrumb trail shows "Home" followed by several menu items: "My all about cocktails", "Renewable Energy", "Job descriptions", "Models", "Power Tagging Search", and an "Edit" link. A "Not following" status is also visible. The main content area features a sub-header for "poolparty Home" and a grid of four functional tiles:

- CONFIGURATION AND SETTINGS**: Represented by a gear and wrench icon.
- CONNECTED CONTENT**: Represented by a tag icon with a square symbol.
- REPORTS AND LOGS**: Represented by a clipboard icon with a pie chart.
- SYNC WITH TERM STORE**: Represented by a circular refresh icon with a list.

“Optimizing Your Taxonomy in SharePoint Online: Search Filters” Mergan Salerno, Enterprise Knowledge White Paper (September 2022)

https://enterprise-knowledge.com/wp-content/uploads/2022/09/Optimizing_Your_Taxonomy_in_SharePoint_Online_Search_Filters.pdf

“A beginner’s guide to SharePoint metadata,” Matt Wade (November 2019)

<https://medium.com/jumpto365/a-beginners-guide-to-sharepoint-metadata-cec1e989272b>

“Taxonomies in SharePoint,” Heather Hedden, Accidental Taxonomist Blog (August, 2017)

<http://accidental-taxonomist.blogspot.com/2017/08/taxonomies-in-sharepoint.html>

The Accidental Taxonomist, 3rd edition, Heather Hedden (fall 2022)

<https://accidental-taxonomist.com>

Questions/Contact

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