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Featured Application

Self-serve Tooling for Enterprise Scale Content Curation and Governance

Overview

Microsoft has a large digital self-help portfolio, with millions of first-party support Web articles authored in English and translated to 30+ languages. On this scale, manual updates, curation, and governance are untenable. Product subject-matter experts (SMEs) and Knowledge Management (KM) professionals require automated, data-driven tooling to manage content at the pace customers need. In a modern customer support environment, digital support resources supply an opportunity to build – or lose – customer trust. As Enterprise support content and related data continue to expand, the ability to *dynamically* analyze and act on data is imperative.

Business Challenges

Maintaining content freshness, accuracy, and quality are familiar challenges for KM professionals managing self-serve corpora. The complexity of this work and its impact on customers increases with size. KM and product teams must complete run-state work, adapt to changing technologies, and innovate within cost constraints and employee capacity.

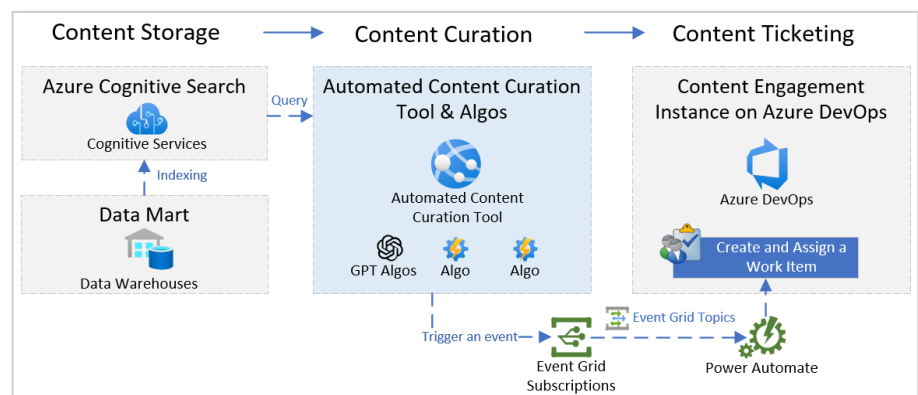
Multiple Needs and Tools

We designed and built tools that integrate with Microsoft's Enterprise knowledge telemetry and content management systems and are complementary to all teams' work processes. We have worked to inform teams across Microsoft of the tools and their ability to use any data stores companywide. The capabilities of these tools have expanded how content teams can do their work. Integration with multiple authoring tools, public support sites, our internal support portfolio, and the associated data centers have been critical for success in this project. The brief summaries below describe each tool.

- Scalable content curation and governance:** The Microsoft Automated, Configurable, and Extensible Digital Asset Curation (MACEDAC) tool uses a 4-step wizard interface and requires less than 30 seconds for a KM professional to create and deploy a monitor-and-alert algorithm for any combination of 60+ parameters at any frequency on any Microsoft knowledge surface. The algorithms can leverage existing data or include data retrieval and analysis (for example, "Auto-generate and assign an Azure DevOps ticket for the associated SME to review any article with high page views, engagement rate, or other measure of high value that was not published, updated, or reviewed in the last 365 days")
- Full and partial auto-healing capabilities:** The Microsoft Digital Asset Self-Healing (MDASH) tool enables full or partially automated resolution of compliance, inclusive language, and other common issues. While early in its deployment, the opportunity for impact is clear – providing human time savings as high as 94% for thousands of common content-quality issues. The MDASH tool can simultaneously save millions of dollars in annual content maintenance costs and expedite resolution timelines, reducing the risk a customer will encounter a problem while learning a new skill or self-solving an issue.
- Combined use:** The MACEDAC and MDASH tools can function independently or in parallel with the MACEDAC tool finding issues and then passing them on to the MDASH tool for full or partially automated resolution.

Technology Development

Microsoft started working on the MACEDAC tool in late 2021. Version 1 went into production in June 2022, with a patent granted three months later. By January 2023, use of the tool across Microsoft had increased significantly. Work on the MDASH tool began in December 2022 with the recognition of both the active and passive time and effort required to resolve even the simplest of content-quality issues.



Business Impact

We have used the MACEDAC tool to help customers, improve productivity, and reduce costs. With more than 2 million articles scanned to date, the tool enabled the identification and resolution of more than 20,000 broken hyperlinks in the first month alone. It has also enabled the identification, review, and resolution of thousands of potentially problematic terms, style guide issues, and out-of-date articles. In May 2023, Microsoft relied on the MACEDAC tool across all internal-only support materials and all three public knowledge surfaces (support.xbox.com, support.microsoft.com, and learn.microsoft.com) to provide a quick response to an urgent business escalation. Each fix the tool enables improves customer trust, increases authoring efficiency, and saves review time.

Customer Impact

The MACEDAC and MDASH tools rely on data. Analytics-driven actions improved content performance and compliance on multiple public self-serve sites, providing customers with access to fast and effective solutions. As a result, the MACEDAC tool and its underlying data contributed to a 19% YoY performance increase for a target Web article corpus. This helped millions of additional customers avoid support cases. In the most challenging and expensive support space, usage of analytics by the MACEDAC tool also helped find 26 areas where we can further expand public-facing solutions to allow customers to self-solve, preserve customer productivity, and reduce support contacts.

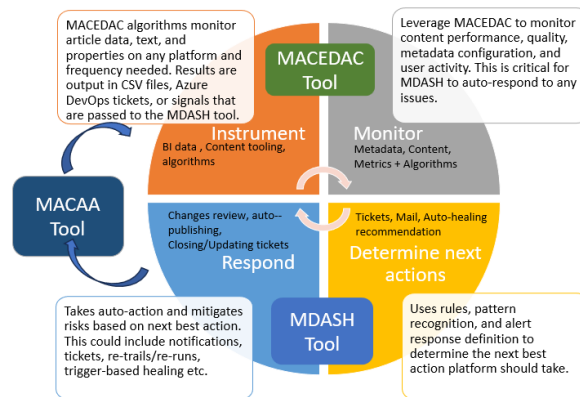
Lessons Learned

The scale of Microsoft's digital corpora required a new execution method for solid curation and governance models. For strategic and production work, we needed a transition to a modern structure to do the right work for the desired impact.

- Content owners need tailored, data-driven analyses to curate and govern their content.
- Adoption takes time and trust. Partnership and listening are key. Pushing a solution is counterproductive.
- Reports require repetitive manual effort to review, and users easily miss data signals, patterns, and issues.
- Providing results via spreadsheet or tickets is too passive. Agreed service level agreements work best.

What's Next?

- We will integrate the MACEDAC tool as a real-time checker on content-authoring canvases.
- We will partner with other internal teams to create an artificial intelligence (AI)-assisted authoring assistant we will call the Microsoft Automated Content Authoring Assistant (MACAA) tool. This will integrate with both the MACEDAC and MDASH tools to support manual and automated content authoring and revisions, including automated quality checks by first- and third-party services. Early testing shows the opportunity to decrease first-draft authoring times by KM professionals by as much as 90%.



Conclusion

Creating and maintaining self-serve knowledge assets at scale is increasingly a combination of the traditional craft of writing and the latest available technology, including algorithms and AI. The ability to augment an individual's or team's capabilities with automation both accelerates and magnifies their contributions while perfecting the customer experience.



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