

NEXER



LEKSANDS
KOMMUN



TRANSFORMING GOVERNANCE WITH AI

BACKGROUND

Nestled in the heart of Dalarna County, central Sweden, Leksand Municipality spans 1,412 square kilometres and serves an approximate 16,000 resident population. Managing numerous governing documents, including regulations, policies, and procedures, posed a difficult challenge for the municipality.

With over 150 documents in circulation, maintaining their accuracy and coherence proved to be an audacious task. The manual document management process, paved by inefficiencies and occasional errors, resulted in unnoticed changes, discrepancies, and ambiguities. Recognising the need for innovative solutions, Leksand embarked on an exploration of AI technology. The goal was clear: leverage AI to interact with and compare documents within the semantic context of the entire document base, thereby enhancing efficiency and accuracy in document management.

AT A GLANCE

Company: Leksand Municipality

Industry: Government
Administration

Employees: 1,000+

Objectives:

- . Utilise AI for document comparison within the entire document base.
- . Ensure alignment and coherence of over 150 governing documents.
- . Enhance efficiency and accuracy in document management.
- . Streamline document comparison processes for user simplicity.
- . Validate the effectiveness of AI-powered document management.

Products:

- . Azure Solutions
- . Azure GPT4 (LLM)
- . Azure Blob Storage
- . Azure OpenAI



CHALLENGE

Implementing advanced retrieval methods was crucial to streamline the document comparison process while ensuring simplicity for end-users. By integrating a vector database with Azure GPT4 (LLM), precise answers within the document base were guaranteed.

During the project, two primary challenges arose. First, the team encountered the task of conducting elaborate document comparisons without prior experience, which required innovative solutions. Second, validating results posed a challenge due to the nature of the problem. However, the team addressed these obstacles by conducting detailed manual reviews of document information and engaging in iterative collaboration with the customer to address questions and corner cases.

Despite the intricate landscape of governmental regulations and the need for compliance with legal and ethical standards, the project received substantial support from Microsoft and Nexer. This collaborative effort underscored a shared commitment to advancing AI initiatives within the public sector.

SOLUTION

In collaboration with Microsoft, Nexer's technical team tailored AI technology to the municipality's needs. Leveraging Azure solutions provided a robust framework that seamlessly aligned with the municipality's IT environment, emphasising transparency and interpretability in AI decision-making processes to ensure accountability and regulatory compliance.

The technical solution comprised three containerised components: a frontend for user interaction and administrative tasks, a backend for processing, and a vector database for document storage. The user-friendly web application interface allowed users to query documents and perform comparisons, while the admin interface facilitated the upload and processing of documents stored in Azure blob storage. The backend, implemented as a REST API, managed all logic for both frontends.

Utilising the retrieval-augmented generation (RAG) approach with the Azure OpenAI GPT4 model, the AI solution seamlessly integrates into the municipality's Azure environment, ensuring smooth deployment.

BENEFITS

Implementing AI yielded significant benefits, enhancing decision-making, document accessibility, and workflows. AI-powered document management enabled the swift identification of discrepancies and contradictions within documents, ensuring heightened consistency and accuracy. This newfound accessibility empowered employees to access pertinent information efficiently, fostering informed decision-making and bolstering quality assurance protocols.

Furthermore, the project served as a valuable learning opportunity, equipping the IT department with essential AI expertise and laying the foundation for future initiatives within the municipality. From a technical standpoint, the primary benefit lies in efficacy, facilitating the attainment of desired outcomes such as collated and validated documents. Additionally, the solution streamlined the production and collation of documents, enhancing overall efficiency.

The AI solution facilitated rapid interaction with hundreds of documents, significantly reducing the time and cognitive load required for manual document review. Thus, time was saved, and the risk of knowledge loss within the organisation was mitigated.

BUSINESS VALUE:

- **Enhanced Decision-Making:** Access to accurate and pertinent information empowers personnel to make swift, informed decisions.
- **Operational Efficiency:** Streamlined workflows improve efficiency, resulting in cost savings for the organisation.
- **Risk Mitigation:** Reduced manual document review time mitigates the risk of knowledge loss within the organisation, ensuring operational continuity and effectiveness.

RESULTS

Implementing an AI project within the municipality has ignited a surge of interest and enthusiasm, prompting further exploration and adoption of AI technologies. This momentum has triggered a strategic shift towards digitalisation and innovation across various departments. To ensure AI's ethical and responsible implementation, the municipality has taken proactive steps by establishing an AI Council and implementing a structured approach for evaluating AI initiatives.

Looking ahead, the municipality aims to harness AI for procurement document generation, leveraging technology to enhance governance efficiency and effectiveness. The Proof of Concept (PoC) underwent evaluation based on two key performance indicators: groundedness and relevancy. These metrics assess the alignment of answers with the facts in the document base and the relevance of the answers to the provided questions.

Integrating AI technology into document management at Leksand Municipality has yielded significant business value and efficiency gains. Decision-making processes have been substantially improved, facilitated by enhanced accessibility to vital information, enabling more informed and strategic decision-making. The streamlined workflows resulting from AI-powered document management have boosted operational efficiency, driving cost savings for the organisation. Furthermore, reducing manual document review time has conserved valuable resources and mitigated the risk of knowledge loss, ensuring continuity and effectiveness in operations.

These outcomes underscore the tangible benefits of AI implementation beyond technical enhancements, highlighting its strategic significance in driving organisational effectiveness and success.



CONCLUSION

The AI project in Leksand Municipality exemplifies a proactive approach to overcoming operational challenges through technology-driven solutions. Through the implementation of AI, the municipality has revolutionised its document management processes, setting the stage for future

digitalisation endeavours. As the municipality continues to explore AI's capabilities across diverse domains, its collaborative ethos and dedication to ethical AI principles will continue to be pivotal in leveraging technology to advance its community and stakeholders.

“This collaboration with Microsoft and Leksand Municipality is a testament to the power of AI in transforming public sector operations. By integrating Azure GPT4 and our expertise at Nexer Insight, we've created a system that enhances document management efficiency and sets a precedent for future AI applications in governance. The success in Leksand is a stepping stone towards our commitment to innovative, responsible AI solutions in the public sector. This project underscores Nexer Insight dedication to leveraging technology for societal advancement and efficient governance.”

- **Carl Tönseth, Business Manager, AI, Cloud & IoT, Sweden**



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