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GUIDED BY

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CAPSTONE PROJECT

KNOWLEDGE MANAGEMENT SYSTEM

Innovation and Originality

1. Novelty and Innovative Approach:

Our Knowledge Management System (KMS) project demonstrates innovation through its unique integration of document embedding, intelligent querying, and automated updates to ensure that organizational knowledge remains centralized and accessible. While traditional knowledge-sharing tools often focus solely on storage or retrieval, our system combines multiple ICT techniques - document ingestion, semantic embeddings, agent-based automation, and real-time news integration - to provide a holistic platform.

The novel aspect lies in designing a system that not only stores documents but also enables employees to interact with them conversationally through natural language queries. Additionally, the integration of freelance project APIs and AI/ML news feeds provides continuous knowledge enrichment, which is not commonly seen in existing corporate knowledge management tools.

2. Comparison with Existing Solutions:

Current solutions such as SharePoint or Confluence primarily offer document management and wiki-style collaboration. While they support structured storage, they lack conversational query features powered by semantic embeddings. Our system differentiates itself by allowing employees to query any uploaded project file and receive context-aware answers, significantly reducing search time.

Unlike static repositories, our KMS continuously evolves by integrating real-time information sources such as AI/ML news feeds and freelance project opportunities from APIs. This creates a dynamic knowledge ecosystem rather than a static archive, which enhances efficiency, relevance, and cost-effectiveness.

3. Contribution to the ICT Domain:

The project advances the ICT field by applying natural language processing and vector embeddings to knowledge management in a corporate setting. It demonstrates how semantic search and AI agents can be effectively used to bridge the knowledge gap when employees leave an organization, thereby ensuring continuity. This aligns with ICT trends toward intelligent information systems and enterprise AI adoption.

Future research directions include scaling the system with cloud-native microservices, applying advanced LLM-based summarization for quicker insights, and integrating with IoT-based data pipelines for organizations working on emerging technologies.

4. Potential Impact:

For employees, the system ensures that project knowledge is never lost and is easily accessible through conversational interfaces. For businesses, this reduces training costs and accelerates onboarding of new employees. For researchers and ICT practitioners, this project serves as a case study in applying model based -powered knowledge systems to solve the persistent problem of knowledge silos in organizations.

The broader ICT field benefits by showcasing a practical implementation of embedding-based retrieval and agentic AI systems for enterprise knowledge retention, setting a precedent for future adoption in corporate and research settings.

5. Contribution Statement:

This section was collaboratively developed by Twisha and Harsh . Twisha focused on researching the novelty of the approach, on the ict domain and as we will how it can co relate while Harsh worked on drafting the comparisons with existing solutions and framing the project's contributions to the ICT field. Both members collaborated on discussing the impact.