INDUSTRY VISIT TO JOHOR CORPORATION

BRIDGING ACADEMIA & ENTERPRISE

INTRODUCTION

This newsletter documents our industrial visit to Johor Corporation (JCorp) located in Johor Bahru. As Computer Science students specializing in Data Engineering, this visit was crucial to our Technology & Information System module. The purpose was to witness how a massive investment holding company transitions into a digital-first enterprise, specifically observing their integration of AI, automation, and centralized data architectures in a real-world setting.

CORPORATE PROFILE & OBJECTIVES

COMPANY BACKGROUND

Johor Corporation (JCorp) is the state investment arm of Johor, established to drive sustainable economic growth. It operates as a massive conglomerate across five core sectors, including Agribusiness (Kulim), Wellness (KPJ Healthcare), Food & Restaurants (QSR Brands), Real Estate (JLand), and the Waqf An-Nur Foundation.

STRATEGIC ROLE AND VISION

JCorp is transitioning into an "AI-First Investment Holding Company" by 2026. Their "Membina & Membela" mission aims to optimize operations through the TRIA Initiative, focusing on AI, Automation, and Analytics to achieve exponential organizational growth and modernize their digital capabilities.

OBJECTIVES OF THE VISIT

This visit provided close-up exposure to the "JCorp Command Centre" and their real-time data operations. We observed how enterprise systems are centralized into a Unified Platform Architecture and how computing is integrated with SASE security protocols to manage a diverse business portfolio.

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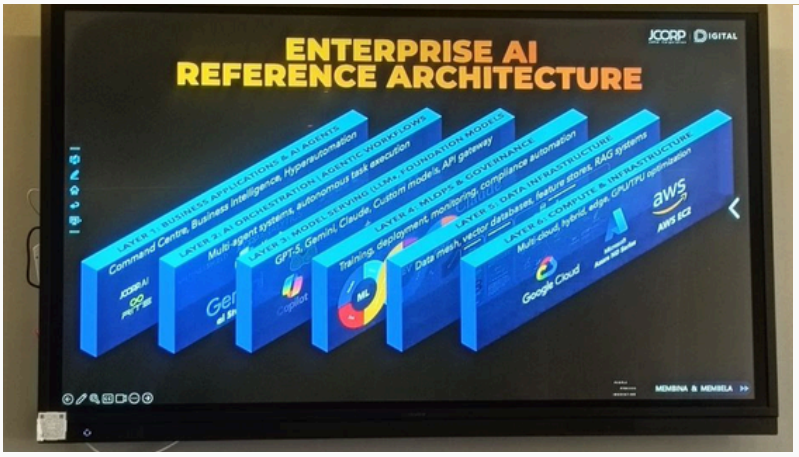
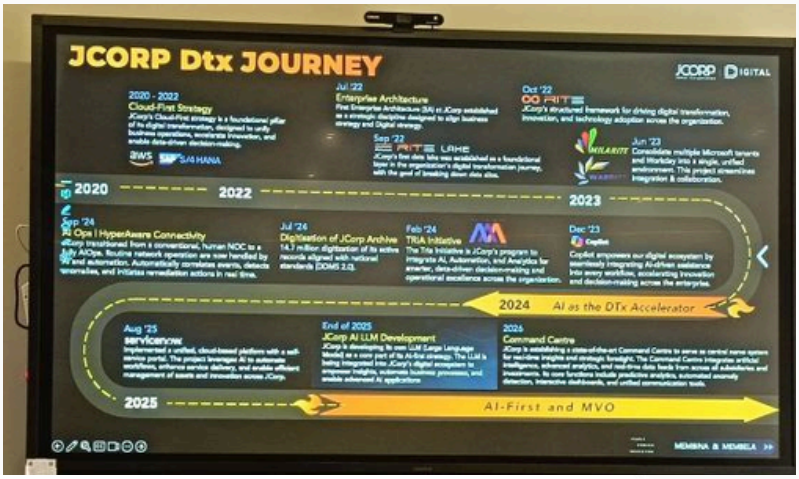
KEY OBSERVATIONS & TECHNICAL INSIGHTS

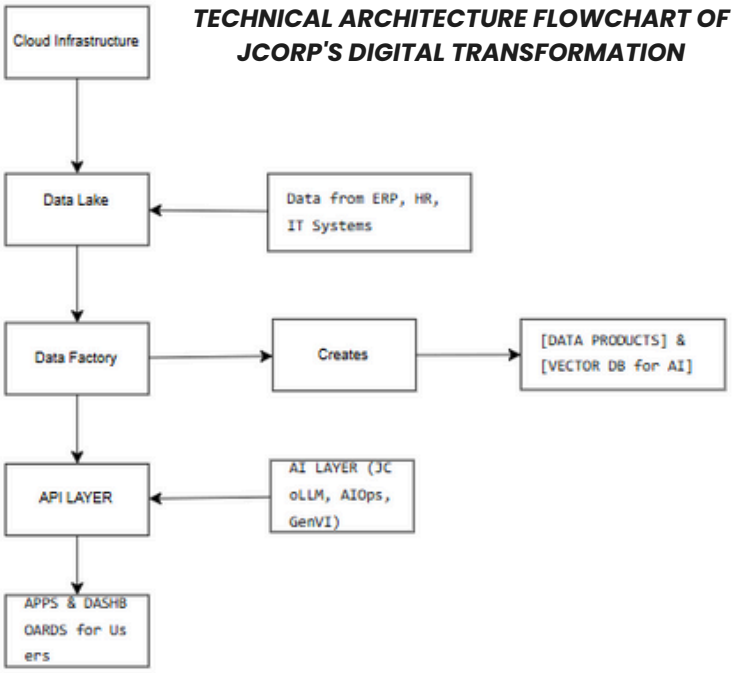
ROLE OF COMPUTING AND INFORMATION SYSTEMS

The use of computing in JCorp has moved from being a helpful facility function to the central nervous system of the organization. Information systems in the organization are not stand-alone applications but an integrated system using artificial intelligence in a way that makes the system autonomous and ideal for decision-making and innovation. The system was developed in a way that makes the transition from the human-controlled operations of the organization to an "agentic" organization possible.





TECHNICAL ARCHITECTURE FLOWCHART OF JCORP'S DIGITAL TRANSFORMATION



TYPE OF COMPUTER SYSTEM

Cloud-First Strategy
A 100% Cloud First strategy is followed rigorously by the company as a whole to achieve high availability and manageability. Legacy servers are decommissioned from on-premise environments and moved over to worldwide cloud environments. Private and Hybrid Cloud environments are used exclusively by the healthcare business to meet government data sovereignty requirements and medical record management.

Artificial Intelligence for IT Operations (AIOps)
Traditional, human-led Network Operation Centers (NOC) have been replaced by a fully automated AIOps environment.

The Intelligence & Agentic
Agentic Computing is also being incorporated within system architecture, with the involvement of AI 'Robots' having particular roles in the organizational hierarchy. Unstructured data is analyzed through the utilization of Vector Databases to enhance the capabilities of large Language Models (LLMs). Business-proprietary insights are developed through JCoLLM, a company-developed Language Model that contains company data to avoid biased results.

ENTERPRISE SYSTEMS AND INTEGRATED ECOSYSTEMS

Enterprise Architecture (EA): *A unified framework established in 2022 to reconcile applications and optimize licensing costs across the group.*
ServiceNow (ITSM): *The core IT Service Management system used for ticketing, tracking "breaks and fixes," and monitoring IT referrals across the organization.*
Microsoft 365 AND Copilot: *The primary enterprise productivity ecosystem. While they use Copilot for 300 power users, they are expanding this with an internal LLM.*
JCoLLM (Internal Enterprise AI): *A proprietary model developed to benefit all 9,000+ business unit members with AI, due to be fully matured by April 2026.*
Workforce Management System: *A digital system for "workman and asset management" that replaced manual paper-based release processes.*

USE OF DATABASES AND DATA MANAGEMENT SYSTEMS

RITE Lake (Data Lake)
A centralized Data Lake is utilized to pull and consolidate data from across all applications in the enterprise.
Vector Databases
These are implemented as the foundation for storing and managing data for Large Language Models (LLMs).
Data Products
Raw data is transformed into Data Products—categorized modules such as finance or operationsthat allow for "drag and drop" analytics.
JCoLLM
A proprietary Large Language Model is being developed to curate internal data, removing third-party bias and providing precise insights for the 2026 Command Centre.
GenVI (Generative Visualization)
A tool currently under development that allows AI to generate visual reports and paragraphs directly from mature datasets.

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LEARNING OUTCOMES

Johor Corporation (Jcorp) revealing its transition from traditional operations into an AI-first organization, prioritizes long-term growth over immediate returns. Futhermore, the real-world concept applications of computing concepts can be seen through advanced concept like AI Ops that use to manage network operations. It use AI to automatically fix failures without human travel. A significant understanding also gained regarding the need in interdisciplinary collaboration. IT infrastructure directly intergrated into core business functions of agribusiness,real estate and health care to drive digital transformation.

SKILLS & KNOWLEDGE DEVELOPMENT

A shift toward Vibe Coding was observed which makes the time required for generating a program is reduced from months to hours. This highlighted that while practice of vibe coding is necessary yet understanding fundamental grasp of how the code functions is crucial to maintain professional standard. The need in understanding five-layer architectural also is a must which includes Business Apps, Orchestration, LLMs, ML Ops and Data Infrastructure. The visit emphasized the importance of Problem-First Approach where effective teamwork requires active listening between technical developers and business units to identify specific pain points before developing solutions.Exposure of industrial standards also provided specifically MLOps for continous integration and ITSM Frameworks for measuring operational performances.

RELEVANCE TO ACADEMIC STUDIES & CAREER

JCORP
Johor Corporation

*Johor Corperation annual report, (2019) https://jcorp.com.my/integrated-reports/

The visit bridged gap between classroom theory and industrial practice. Academic concepts regarding ETL processes and Data Warehousing can be seen through Jcorp's five-layer architectural model. The curriculum's focus on Data Pipelines was reflected in JCorp Data Fabric which links raw datasets into Data Products using Vector Databases and LLMs.The course focus on Big Data Technologies was evidenced through Star Factory, a fully automated supply chain. This creation of autonomous systems to handle massive data flows with minimal manual intervention was demonstrated as ultimate goal of a Data Engineer. While AI Orchestration and vibe coding are needed to accelerate development via high level AI prompting, the visit reinforced that a deep understanding of Data Engineering foundation is still required to maintain secure and governed systems.

ACKNOWLEDGEMENT

Sincere appreciation is expressed to JCorp for providing transparent insights into their digital transformation journey. Gratitude is also extended to the lecturers, organizers, and staff for facilitating this industry engagement, which has significantly bridged the gap between academic theory and professional practice.

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CONCLUSION

Overall, an invaluable perspective on the practical execution of a Cloud-first strategy within a major conglomerate was provided in this Jcorp visit. Industry exposure is needed as it provides insights of industry needs that exceed the scope of traditional textbook. It served a critical reminder that while technical skills are foundational, professional success is dictated by the ability to communicate, collaborate across disciplines, and adapt to rapid technological shifts.