UTM UNIVERSITI TEKNOLOGI MALAYSIA | Malaysia-Japan International Institute of Technology (MJIIT)

DECEMBER 2030

REPORT
INDUSTRIAL TALK 2 : SYSTEM DEVELOPMENT @ CREDENCE (TM SUBSIDIARY)

Report by:

CHRISTINE SHANE ONG
A23MJ5026

NUR DIYANA MOHD HANAFIAH
A23MJ5046

NUR IMAN FARISYA MOHD HAZLIN
A23MJ5030

AKINA AISHAH YEAP
A23MJ5005

DESCRIPTION OF THE SYSTEM DEVELOPMENT

Credence, a cutting-edge company, has developed a robust system that harnesses the power of analytics to extract meaningful insights from diverse data sources. The system is designed to facilitate a seamless process of data collection, transformation, analytics, modeling, prediction, and visualization. This comprehensive approach enables Credence to gain strategic, tactical, and operational insights, empowering the company to make informed decisions across various domains.

HISTORY OF CREDENCE'S SYSTEM DEVELOPMENT

Credence's journey in system development began with a vision to leverage analytics for extracting actionable intelligence. Over the years, the company has evolved its systems to incorporate advanced technologies and tools, ensuring they stay at the forefront of the analytics landscape. From humble beginnings, Credence's system development has grown into a sophisticated framework capable of handling large datasets from diverse sources.

TECHNOLOGY USED IN CREDENCE'S SYSTEM DEVELOPMENT

- **Database/OLAP:** Credence employs powerful databases such as PostgreSQL, ClickHouse, and Druid for efficient storage and retrieval of data. Online Analytical Processing (OLAP) is instrumental in providing fast and interactive analysis.


PostgreSQL


ClickHouse


Druid

- **Visualization Tools:** The system utilizes state-of-the-art visualization tools including Tableau, PowerBI, Metabase, and Superset to translate complex data into comprehensible visual insights, facilitating better decision-making.


Tableau


PowerBI


Metabase


Superset


Spark


Airflow

- **ETL/ELT:** Credence relies on robust Extract, Transform, Load (ETL) and Extract, Load, Transform (ELT) processes. Tools such as Airflow and Spark are employed to ensure seamless data flow, transformation, and integration.


SQL


Python


Bash Syntac

- **Programming Languages:** The system leverages SQL, Python, and Bash Syntax for scripting and programming tasks, enabling flexibility and customization in analytics workflows.

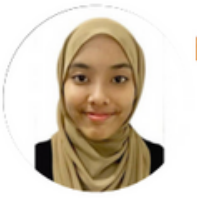
REFLECTIONS FOR INDUSTRIAL TALK 2

How you will be a system developer in next four years?

NUR DIYANA :

The talk about Credence's system development was awesome! The comprehensive system developed by Credence, integrating powerful databases, advanced analytics, and state-of-the-art visualization tools, highlights the importance of a holistic approach to data management. As a future system developer, I recognize the significance of mastering a diverse set of skills, from database management to programming languages and visualization tools. I aim to enhance my capabilities in these areas, ensuring a well-rounded skill set to contribute to the development of robust and versatile systems.

NUR IMAN FARISYA:



As a first-year software engineering student, learning about Credence's system development strategy has piqued my interest in developing large-scale data-driven systems. I need to focus on succeeding in my core classes and looking for ways to use my knowledge through personal projects or hackathons. In the next four years, I aspire to adopt a similar approach, continuously learning and incorporating advanced technologies to ensure the systems I develop are not just efficient but also capable of meeting evolving industry needs..

AKINA AISYAH YEAP:

I seemed particularly interested in Credence's use of ETL/ELT processes using tools like Airflow and Spark, which showcases Credence's commitment to seamless data flow and integration. Reflecting on this, I see the critical role of efficient data processing in the success of analytics systems. In the coming years, I intend to deepen my understanding of ETL and ELT processes, explore real-time data processing, and stay abreast of the latest tools to enhance the speed and agility of data transformation in the systems I contribute to.

CHRISTINE SHANE ONG

As I reflect on Credence's strategy, I see the potential for my career as a system developer to contribute significantly to project success through a focus on code optimization and scalability. The commitment to efficient and maintainable code is not just a personal goal but a philosophy that resonates with the long-term success of software systems. Over the next four years, I envision honing my skills in these areas, collaborating with peers, and implementing best practices to create robust, high-performing solutions that stand the test of time in the ever-evolving field of system development.