UTM UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING
UTM Johor Bahru

Subject : Technology Information System (SECP1513)
Section : 03
Task : REPORT on INDUSTRY TALK 2
Title : **System Development @ Credence (TM Subsidiary)**
Due : 10 / 01 / 2024
Group : **Tactic Tech**
Member : Nur Syakirah Adilah binti Azri (A23CS0159)
Lim En Dhong (A23CS0239)
Ain Najiha binti Junaidi (A23CS0038)
Fam Qai Zen (A23CS0223)
Tan Jian Ming (A23CS0275)
Yousif Salah Yousif Almatri (A23CS0028)
Mah Wilson (A23CS0243)

Description of the system development

The TM Credence system development process kicks off with data collection from the database. For example, they gather external data from open sources such as news and social media platforms such as Twitter. The process is then continued with data collection. It is the collection and analysis of data from various sources, such as surveys. It is then followed by data transformation. They convert the collected data into a format that can be used for decision making. They can gather more accurate data for prediction by using the analytics and modeling processes. It is also the data prediction visualization process. They convert complex data into graphic forms such as bar charts and pie charts so that others can easily understand the data. Last but not least, strategic, tactical, and operational insights are extremely beneficial for a person who is involved in system development at TM Credence.

History

- In 2022, TM launched Credence (subsidiary company) which is a new cloud services company focused on expanding the capabilities of enterprises and the public sector in the digital transformation journey.
- Credence is a service base company where composed of a team of experts to deliver work to computing a task for our customers (solely for growth of cloud and digital services analytics)
- Credence will provide capabilities from tech infrastructure to business insights, cloud advisory, IT landscape migration, software as a service, managed services, as well as analytics and insights.

Reference: https://tm.com.my/index.php/news/tm-launch-credence

Technology and tools used in Credence's system development

Credence basically used

- Hadoop/MapReduce
- NoSQL
- PostgreSQL for data management
- Apache Spark's Mllib for machine learning prototyping

Database/OLAP

1. PostgreSQL (database management system (RDBMS))
2. ClickHouse (Online Analytical Processing(OLAP))
3. Druid (Real-time analytics for large datasets)

Visualization Tools

1. Tableau (Data visualization tool)
2. PowerBI (Business Analytics Tool)
3. Metabase (Tool to explore, create dashboards and ask ad-hoc questions to make sense of data)
4. Superset (Data Exploration and Visualization Platform)

ETL/ELT

1. Airflow (Author, Schedule, and monitor workflows for complex ETL tasks)
2. Spark (Data processing engine for big data processing and analytics)

Programming Language

1. SQL (Managing and querying relational databases)
2. Python (Data analysis, machine learning, scripting and general-purpose programming)
3. Bash Syntax (Automating tasks, managing files and executing commands)

The platform was well-equipped to provide valuable insights into the DIA.

<u>Reflection from each student from the talk</u>

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

1. **Nur Syakirah Adilah binti Azri (A23CS0159)**
   To thrive as a system developer over the next four years, I need to establish a solid understanding of cybersecurity principles, leveraging my current status as a bachelor's student specializing in network and security. This mainly includes encryption, secure coding, and how to identify and mitigate security vulnerabilities in addition to fine-tuning my technical skills, problem-solving abilities, and flexibility to adapt to new technologies. This acknowledgment stems from the dynamic nature of the technology field, where rapid developments necessitate continuous growth and learning.

2. **Lim En Dhong (A23CS0239)**
   Over the next four years, I am dedicated to excelling as a system developer through active class engagement, securing internships for practical experience, participating in community events, staying current with industry trends, obtaining pertinent certifications, and seeking mentorship. This holistic strategy ensures a well-rounded and comprehensive journey in system development, enhancing both theoretical knowledge and practical skills. By immersing myself in diverse aspects of the field, I aim to build a strong foundation, stay competitive, and foster continuous growth in this dynamic and evolving industry.

3. **Ain Najiha binti Junaidi (A23CS0038)**
   In order to become a system developer within the next four years, I need to enhance my skills in developing systems such as programming languages and data structures. In addition, I also have to contribute more in classes and gain more practical experience from events, workshops or hands-on projects to seek more opportunities to be a better developer. Moreover, I need to be alert and stay updated about technologies and tools in system development so I can adapt throughout my career. Lastly, I need to improve my soft skills like communication skills and critical thinking skills as it is a crucial element to become a great system developer.

4. **Fam Qai Zen (A23CS0223)**
   I want to become a skilled cybersecurity-focused system developer over the course of the next four years. I'll improve my knowledge of creating reliable and secure systems, putting cutting-edge encryption techniques into practice and carrying out

exhaustive vulnerability analyses. I hope to greatly contribute to the creation of robust and dependable systems by keeping up with new threats and implementing preventative security measures. My development will be greatly aided by involvement in cybersecurity communities, industry certifications and ongoing education. In the end, I want to be a key player in defending digital environments from ever changing cyberthreats.

5. **Tan Jian Ming (A23CS0275)**
   To become a system developer in the next four years, I will first focus on mastering fundamental computer science concepts such as programming language. Furthermore, participating in coding projects and practical assignments will allow me to gain hands-on experience. I will also adopt a mindset of continuous learning by remaining curious and exploring new technologies. In a nutshell, adapting these skills may help me a lot in becoming a successful system developer.

6. **Yousif Salah Yousif Almatri (A23CS0028)**
   I want to be an elite developer of cybersecurity systems in the next four years. Motivated by the desire to create invulnerable fortresses of code, I will fine-tune my skills in developing robust and dependable systems. I'm excited about learning the latest encryption techniques, analyzing all weaknesses with an eagle eye and padding my skills at every opportunity to be ahead of shifting threats. By engaging in cybersecurity communities, obtaining industry certificates with all gunpowder and focusing on continuous learning of technical knowledge, I'll be able to become a strong defender of the cyber-space.
7. **Mah Wilson (A23CS0243)**
   Through this industrial talk, I realised that in order to become a competent and capable cybersecurity-centric systems developer, I will need to plan thoroughly, be resolute and committed, maintain a proper mindset and uphold proper work ethics. The areas I will focus on improving are my technical skills, soft skills, continuous learning, building rapport and networking with my peers, mentors and industry leaders and last but not least, be optimistic and prepare for the future to come.