UNIVERSITI TEKNOLOGI MALAYSIA

Report on Industries Talk 2a: System Development @ Credence (TM Subsidiary)

Representative:

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1. **Description of the system development**

   System development is a collection of tasks used to construct an information system which is grouped into phases and called System Development Life Cycle (SDLC). For each system development project, a project team that consists of project manager, system analyst, and other IT professionals will be formed in which the proposed system will be used from beginning to the end of the project.

2. **History of system development**

   System Development Life Cycle's history focuses on the Waterfall model, outlined by Winston W. Royce in 1970. Waterfall's organised project approached two decades, followed by the V-model in 1980. Criticised for inflexibility, the Agile revolution began around 1975, introducing iterative and incremental models. Agile methodologies like Scrum and Extreme Programming gained attraction in the 1990s. DevOps, emerging in 2009, the modernises Agile for faster service delivery. Adaptability is important in software development's evolving landscape.

3. **Technology and tool use in Credence's system development**

   PostgreSQL is the main database technology used in Credence's database management systems, along with ClickHouse and Druid. For visualisation purposes, Credence uses Tableau and Power BI and also open-source tools, Metabase and Superset when they are working with a constrained budget. Airflow and Spark are the primary tools used by Credence in their ELT/ETL process. Finally, they employed SQL and Python as their primary programming languages. Additionally, their data engineers also utilise Bash Syntax for Cloud-based client data.

4. **Skills required to be a data engineer in the future**

   As technology advances, the demand for data engineers and digital engineers increases. Young professionals are often hired to fill these positions. Therefore, they must possess knowledge of programming languages like Python and Java, as well as knowledge of cloud computing and platforms like AWS and Azure (*Future Data Engineering Skills: What You Need to Know*, 2023). Data modelling, data visualisation, and communication skills are also essential for creating an effective data pipeline and collaborating with colleagues and clients.

5. Reflection (Individual)

5.1 Nurul Ika Syafiny Binti Azhar

From this talk, I learned some skills and work behaviour that are required to be great in industry. We must do our best in the project we work on because that is how our employer sees our potential and becomes interested in employing us. Besides, we should be active in our workplace so we can gain good social relationships with our coworkers and help us settle in better inside the new environment.

5.2 Nur Firzana Binti Badrus Hisham

To succeed as a system developer, continuous learning is a key since the technology is ever-changing technology. Attend workshops and online courses to stay updated. Teamwork skills are equally important so that we can build a strong professional network among the experts. Working together not only enhances our knowledge but also positions us as dedicated learners.

5.3 Nawwarah Auni binti Nazrudin

In order to become a successful system developer in the following four years, I need to explore tools and technologies to increase my productivity and adaptability. Next, I also want to study Python and improve my problem-solving abilities. Finally, I should be more confident and seize all the opportunities offered for my career growth.

5.4 Lubna Al Haani Binti Radzuan

One of my objectives for the next four years is to become proficient in programming languages like Python and also my self-learning ability, which are necessary for my field of career. In addition, I want to improve my ability to collaborate with others by learning new skills, particularly how to resolve conflicts in a team environment, to ensure a more efficient and successful workflow and build client and corporate trust.

5.5 Nuraisyah Binti Mohd Zikre

Consistency in making sure I keep on up to date with the advancing of the technology to ensure not lacking in any ways as the world of this industry keeps on improving everyday, and practising healthy working behaviour by always communicating with the team members and show my potential with what I am capable of to gain trust from the higher ups.

6. References

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