UTM
UNIVERSITI TEKNOLOGI MALAYSIA

CEDS2 2202

INDUSTRY TALK
REPORT

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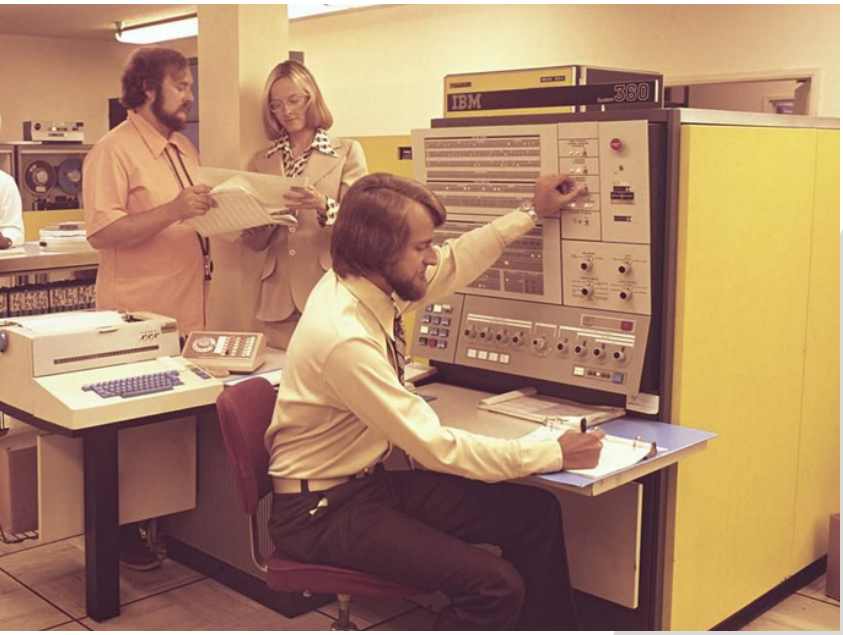
History

1950s

The development of the first electronic computers were often custom-built for specific scientific or military applications. COBOL emerged as a key programming language for business systems.



1960s

Time-sharing systems allowing multiple users to interact with a computer simultaneously and interactive programming languages like BASIC and FORTRAN were developed.

1970s

Rise of database management systems, providing a structured way to organise and retrieve data. Structured programming methodologies, such as those promoted by Edsger Djikstra became prevalent

1980s

Modular programming and top-down design principles were emphasised. The availability of microprocessors in the 80s led to the development of personal computers. Object - oriented programming (OOP) gained prominence

1990s

The growth of the internet cause focus on web-based applications. HTML, JavaScript, and server-side scripting languages became essential for web development.

2010s

Microservices architecture gained popularity for building modular and scalable systems. Artificial intelligence and machine learning became integral to system development.

Technology and Tool

Database

- PostgreSQL

  Powerful, open source object-relational database system.
- ClickHouse

  Running real-time analytical queries.
- Druid

  High-performance real-time analytics.

Visualisation

- Tableau

  Easy to use and excellent visualization capabilities.
- Power BI

  High-grade security and compatible with any Microsoft products
- Metabase

  Enables developers to ask questions about the data, showing them the answers.

ETL/ELT

- Airflow

  Easy to use and excellent visualization capabilities.
- Apache Spark

  Multi-language engine that enable machine learning to run quickly.

Programming Language

- Python

  Widely used in data analytics as it offers a data frame to effectively work with large tables of data.
- SQL

  Can store, retrieve and manipulate data within a database management system

System Development Process

1 **Planning**
Information gathering

2 **Analystics**
Systematic analysis of data or information

3 **Design**
Create the first prototype of a project

4 **Development**
Working solution, code and the finalisation of requirements are produced

5 **Testing**
Test out the system or software

6 **Implementation**
Ready to be implemented or released to market

7 **Maintenance**
Receive and immediately react to reported issues

Reflection

Ammar

In this modern age where technology is rapidly advancing, people must keep up to date and adapt with all the changes over time. Unlike other industries, new innovations and applications are developed all the time in the IT industry. Subsequently, as a computer science student, I must also follow and implement all these new innovations and applications instead of still holding on to old techniques.

Jun Hong

Since technologies nowadays keep on changing at a rapid pace, continuous learning is important and crucial for me to keep myself updated and make sure that I can adapt myself with new programming languages, frameworks and tools. Besides, to become a system developer in the next four years, knowledge related to IoT integration and using AI and machine learning will help me a lot in the process. Thus, acquiring the knowledge and learning how to use it is another thing that I can do to improve myself on this route of becoming a system developer. Positive values like determination and confidence are also the key to becoming a decent system developer.

Yi Tian

The characteristics such as hight motivate and hard-working is important for me to become a system developer because the technology, programming language and framework are keep updating everyday. After attending to the talk, I think that it is very important to me in the next four years in university. I should work-hard and do not be shy to asking when facing problems. I should also keep touching with the knowledge about system development such as take part in activities related with it to ensure that I can get extra knowledge and experience about system development.

Chun Yi

In this era of technology, the technologies that we use are keep on changing and evolving. As a computer science student that want to be a system developer, I will stay adapting and learning the new technologies or applications to ensure that I am on the track of globalization. This is because system development usually requires the latest technologies to provide high-quality software solutions that can fulfill the customer expectations and efficient in budget and time. Therefore, I will commit in lifelong learning in AI and machine learning to increase the productivity as a system developer. Moreover, I will try my best to tackle any obstacles not only during pursuing my degree but also during working as a system developer.

Nazmi

In this current era of rapidly developing technologies, newcomers to society would need to be highly adaptable and skilled to land a job. This implies that someone like me, who would like to be a developer, has to keep on learning about the contemporary trends of these technologies so that I would not be left behind. Being a developer requires a high level understanding of technologies so that it can be utilized in terms of resources, time and energy. In conclusion, I would try my absolute best to keep stuffing my head with knowledge of newly developed technologies, trends and even current societal problems so that I can be of use to society.