UNIVERSITI TEKNOLOGI MALAYSIA

SECP1513-02 TECHNOLOGY AND INFORMATION SYSTEM

SKILLS IN UNIVERSITY AND INDUSTRY

Speakers:

Encik Nik Mohd Habibullah
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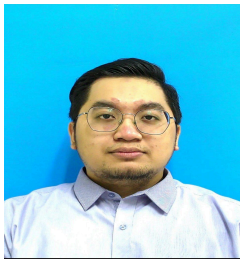

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 Name: Lee Jia Yee Matric No: A24CS0260	 Name: Hong Jia Bao Matric.No: A24CS0251

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1.0 Introduction

We attended an industry talk on December 17, 2024, at Bilik Kuliah1, N28. This talk was talking about the future of the computer science field.Two speakers were invited that focused on industry requirements and preparing for entrepreneurship.The first speaker gave a talk on offline while the second speaker gave a talk on webex.

2.0 Speaker's Experience

Speaker 1:Mr.Mohd Hakimi Iqmall

Mr.Mohd Hakimi Iqmall holds a Diploma in Computer Science (Multimedia) and a Bachelor's Degree in Computer Science (Multimedia and Graphics) from Universiti Teknologi Malaysia (UTM), graduating in 2018.His professional journey began in 2017 with an internship at ME-Tech Solution. After graduation, he worked at Okakichi Sdn. Bhd. from 2018 to 2019 as a Game Programmer on the Kingdom Kan project, where he also contributed as a game animator. From 2019 to 2021, he joined UTM Research Computing as a System Programmer, working on innovative projects such as Research and Development Information System(RADIS) 4.0 and Industry & Community Engagement System(ICESys).Since 2021, he has been part of UTM Digital as a Project Manager and System Analyst. In this role, he has worked in development and management of key systems, including the Welfare Service System, Clinic Panel System, Payroll 2.0, Kenaikan Gaji Tahunan (KGT) System, Sistem Saraan Perkhidmatan Awam (SSPA) System, and the Integrity System.

Speaker 2:Mr.Nik Mohd Habibullah

Mr.Nik Mohd Habibullah is alumnus of Universiti Teknologi Malaysia (UTM), he graduated in 2005 with a degree in Computer Science.His journey began with projects during his university years, including the creation of a montage for UTM's digital library, which served as one of his earliest project. He also developed the Aman Malaysia montage and completed a final-year project focused on designing a digital catalog system for UTM Library using a systemic. He also founded NI Solution Enterprise, which later evolved into Micro Semiconductor Sdn. Bhd.His portfolio includes impactful projects such as GetMeHired, a platform aimed at revolutionizing the job recruitment process, and the Dialysis Management System (DigitalManager.io), which uses technology to improve healthcare administration and patient management.

3.0 Basic Skills Required For Computer Science

One of the most important skills required for computer science is programming languages such as C++, Java and Python. This skill needs to be mastered and it is the core skill for computer science students. Besides that, we need to understand the database structure. We need to have a clear view about how the data is being managed, stored, and retrieved. Next one is operating systems which are essential for designing and developing software that interacts with hardware. Other than that, we need to be familiar with software development as it demonstrates to understand the process of developing a software application (Feder, 2023).

In addition, a strong grasp on algorithms and data structures is important for analytical and logical skills for computer science. The flows or sequences of the instructions that were used to solve a problem need to be known. Effective communication skills are also important as it helps to be able to explain concepts clearly to people who work outside of IT (Feder, 2023). Last but not least, team working is important because work as a team is a common thing in this field and it involves a variety of interpersonal skills such as delegating tasks effectively (Feder, 2023).

4.0 Skills Required by Industry

There are more IT graduates from universities, and the industry requires skilled IT graduates to meet the job market demands. The industry requires graduates with highly essential skills. First, technical skills are the most important skills for new hires (Abraham et al., 2006). To solve real-world problems, it is essential to collaborate with developers during the analysis, design, development, and testing phases. Programming languages, system analysis, testing and design, data telecommunication, database design, and operating systems are among the top entry-level skills that industry seeks (Abraham et al., 2006). Furthermore, interpersonal skills are more essential for new hires than organizational knowledge and core IT skills (Fang, Lee, and Koh, 2005). To bridge the gap between stakeholders, developers, and end-users during requirements-gathering, planning, and implementation phases, it is important to have an ability to communicate with others. Effective team coordination and alignment are also critical throughout every phase.

In addition, organizational knowledge is another essential skill that the industry needs. Business domain knowledge, including understanding of primary business functions and familiar with specific industries. Project management skills were discovered to be the highest-ranking skill at one manufacturing company in the northeastern United States (Kim, Hsu, and Stern, 2006). These skills are essential during the planning and analysis phases for evaluating business needs and determining the best solutions. Hence, employees should have a proper mindset aligned with the current and potential market demands. Finally, personal skills are also crucial, as they require certain qualities such as integrity, innovative thinking, flexibility, self-responsibility, self-motivation, and risk-taking when dealing with any issue. In addition, an industry considers previous work and internship experience, a high GPA in IT-related courses, and extracurricular activities. As a result, all of these skills can strengthen the industry's confidence in a graduate’s ability to perform in various roles within an organization.

5.0 Reflection on Talk

How will you be successful in computer science in the next four years?

Kavinesh Reddy A/L Gopalakrishnan : A lot was learned from this industry talk. The importance of technical skills and management skills was known. This talk session helps to understand the importance of portfolio and mastering C++ programming language. The speakers also emphasize the importance of self learning.

Lee Jia Yee: Communication skills, especially in English, need to be improved, as this was highlighted as a common mistake in job hunting. Time should be allocated to participate in activities such as talks and speeches, as these provide opportunities to enhance communication skills through interaction.Soft skills will be developed, and programming languages will be further refined. GitHub and LinkedIn will be utilized effectively.

Nur Athirah Syafiqah binti Norhisyam : First of all, more programming languages that are needed in the future and jobs will be self learned by the programmer. This action will result in the improvement of technical skills, which are important in the design, development and testing phases. Then, participation in group projects will be undertaken to enhance teamwork.

Hong Jia Bao :From the talk , the speaker emphasizes getting to know the strength and weakness. Improve communication skills and technical skills such as C++ programming language and learn other programming languages which will be beneficial .

6.0 References

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