



SECP1513-02 TECHNOLOGY AND INFORMATION SYSTEM

Assignment 3: Academic Writing

Project Title: Project Management dan System Development



Speaker: Ts. Hj. Abdul Alim bin Abdul Muttalib

Topics Covered:

- Speaker Experience
- What is Project Management and System Development?
- How the Project Management and System Development has been used in Computer Science Programmes
- Skills Required for Computer Science and Industry
- Reflection
- References

Lecturer: Dr. Aryati binti Bakri

Group 10: TechNexus

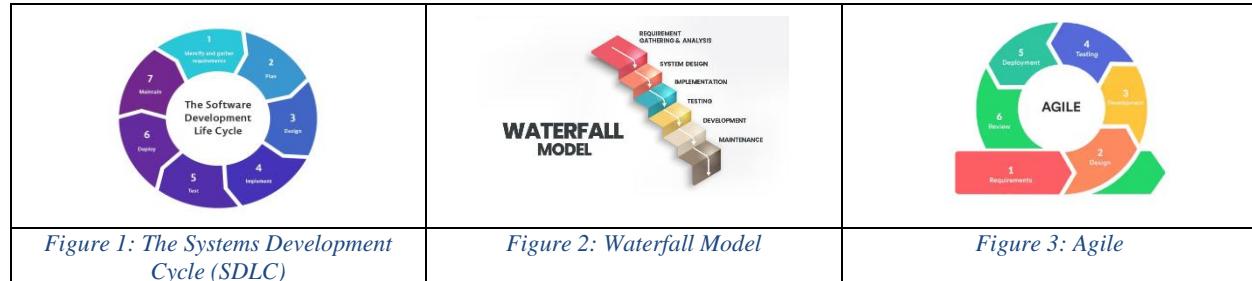
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Ng Xuan Yee	A25CS0291
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1.0 SPEAKER EXPERIENCE

Ts. Hj. Abdul Alim bin Abdul Muttalib graduated in 2015 with a Bachelor of Computer Science from Universiti Teknologi Malaysia (UTM). After graduation, he worked at various companies and gained experience in system development. His work life began as a Software Engineer at Brilliance Information until 2017, followed by his position at Genaxis Group as a Technical Consultant and Product Development Manager (AI). Currently, he is the Head of Technology and Innovation at Serunai Commerce Sdn. Bhd., a company engaged in the business of producing halal solutions. He is a Professional Technologist certified with the Malaysian Board of Technologists and is known as an innovation specialist in digital transformation and ecosystem enablement. He is also the founder of Sakupay and PilgrimPro.

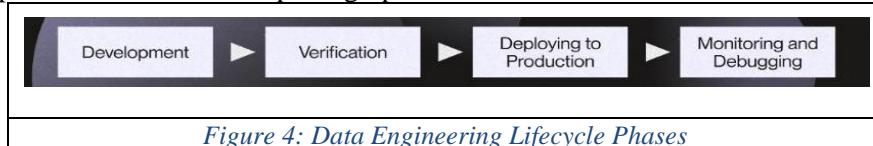
2.0 PROJECT MANAGEMENT AND SYSTEM DEVELOPMENT

Project management is the application of knowledge, skills, tools and techniques to plan, organize, and execute tasks to achieve project goals. It is important to ensure that the project stays on track, on time and within budget. It also supports team synergy to coordinate work effectively among designers, testers and other developers. System development, or the Systems Development Life Cycle (SDLC), is the process of defining, designing, testing and implementing software. It consists of seven phases: planning, analysis, design, development, testing, deployment, and maintenance. SDLC uses structured methodologies such as Waterfall and Agile. Waterfall follows a linear sequence approach where each phase must be completed before the next begins, while Agile is an iterative approach in which the project is broken into small sprints that emphasize collaboration, customer involvement and early feedback.



3.0 USES OF PROJECT MANAGEMENT AND SYSTEM DEVELOPMENT

In computer science courses such as data engineering, both project management and system development are used to define a project's execution, ensuring processes such as ETL pipelines, data warehousing, data ingestion are planned to prevent quality or scalability issues (Victoria, 2025). In practice, a data engineer must understand the business requirements for data to translate them into structured systems through planning, system design, developing, testing and deployment. These systems undergo repeated quality checks before moving into the production phase through staged environments, followed by continuous monitoring to ensure performance optimization according to updated requirements (Ryza, 2024). Similar applications can be observed across other programmes such as bioinformatics, computer network, and computer graphics.



4.0 BASIC SKILLS REQUIRED FOR COMPUTER SCIENCE AND BY INDUSTRY

To succeed in computer science, students must develop several basic skills early on. One of the most important is requirement gathering, which involves understanding user needs and translating them into clear system specifications. Another key skill is system design, which helps plan how components like databases and user interfaces work together to create efficient systems. Programming skills remain fundamental but should be supported by logical thinking, debugging and understanding system flow. The use of AI-assisted development tools is increasingly important, though students must still grasp core concepts to avoid over-reliance. Additionally, strong communication and teamwork skills are essential since most projects require collaboration.

From the industry's perspective, employers expect graduates to be ready to apply their knowledge in real projects and master the full system development lifecycle, from planning to maintenance. A common issue is the

“FYP Trap,” where students only focus on these skills late in their studies, leading to stress and struggle. Besides technical skills, employers highly value soft skills such as effective communication, time management, adaptability and the ability to accept feedback and keep learning.

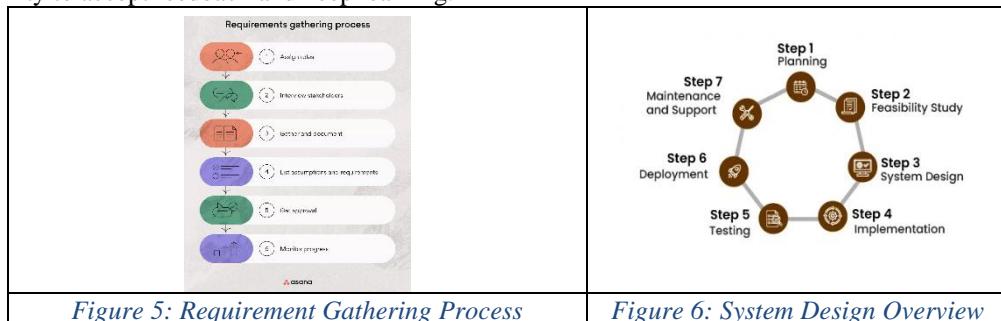


Figure 5: Requirement Gathering Process

Figure 6: System Design Overview

5.0 REFLECTION:

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

Nur Nazirah Hanis binti Nazri (A25CS0319): To succeed in computer science, strong fundamentals, experience and skills are crucial. Classroom learning and group projects help to develop technical skills. In addition, participating in extracurricular activities enhances soft skills such as communication. Lastly, I should improve knowledge by exploring new tools such as using AI to complete tasks more efficiently.

Humayra' binti Zulqarnain (A25CS0068): The concepts we learn in the classroom should not be ignored until it is time to do our Final Year Project. I would allocate my time to learn and understand the material and implement them in my own projects to reinforce the knowledge that would be valuable until work life. I would also participate in competitions or join as a committee member to enhance my communication and problem-solving skills and update them in my portfolio to stand out.

Ng Xuan Yee (A25CS0291): The industry talk highlighted the importance of project implementation and AI should be used as a supporting tool rather than replacing independent thinking. The speaker explained SDLC by using cooking examples to make it easier to understand. To succeed in computer science, understanding the basics and learning about the ideas behind the code is important. Over the four years of study, participating in computer-related competitions also helps to get more resources, gain experience, and meet new people in the field.

Nur Hanani Sazwani binti Muhammad Helmi Wan (A25CS0313): In the next four years, I will succeed in computer science by consistently improving my basic skills and mindset. I plan to strengthen my programming skills while also focusing on system development skills such as requirement analysis and system design. I will improve my communication and teamwork skills through group assignments and projects. I believe I can prepare myself to meet industry expectations and succeed in this field.

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