<https://hchamane.github.io/module2.html>

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**Programme of Study:** MSc Computer Science

**Organisation Name:** The University of Essex Online

**Summative Assessment: ePortfolio Submission**

**Introduction:**

This assignment aims to assess my progress and growth in the Object-Oriented Programming (OOP) module through my e-portfolio. Furthermore, by sharing my experiences about my learnings and observations, I hope to gain insight into my strengths, weaknesses and how I can apply my new knowledge as an IT professional and aspiring program manager. Also, I will explain how this study program aligns with my career goals and aspirations.

**Description:**

I made definite goals to achieve before starting the OOP module. These included thoroughly appreciating OOP's benefits. OOP is a valuable method for creating and maintaining virtual objects with distinctive qualities and behaviours, as Kaur (2023) noted. Hence, leveraging ideas like inheritance and encapsulation enhances programming, boosting efficiency and fun; developers can utilise OOP to produce modular, reusable, and maintainable code to simplify complicated systems, promote code reuse, and improve maintainability and scalability. In addition, I wanted to master data structures for practical data preservation, become an expert in UML for creating object-oriented programmes, and appreciate the relevance of design patterns in software development.

Throughout the module, I encountered challenges constructing and expressing UML diagrams, leading to frustration and a lack of motivation. However, I also developed a strong interest in improving my UML diagram design skills. As I focused on the module's advantages, I became determined to enhance my Python skills, which are essential for automating tasks and transforming concepts into projects. These skills are crucial for my goal of becoming a program manager and data analyst.

**Feelings:**

Any candidate for programme manager needs to have a solid understanding of planning and implementing systems. According to Dijksterhuis & Silvius (2016), adopting "engineered" practises, such as design thinking, can foster innovation and effectively manage complex organisational problems. Although I had initially encountered a frustrating challenge with UML diagrams, I recognised the chance to improve in other areas where I was progressing. Despite the meticulous attention to detail required for the UML diagrams, I persisted and focused on improving my problem-solving skills. I overcame these challenges with patience and persistence and gained the confidence to handle challenging tasks. My success with Python and data structures encouraged me to keep improving and achieving my goals.

**Evaluation:**

I gained knowledge for future projects from my System Design and System Implementation assignments, which also taught me the value of creating UML models to support object-oriented design and implementing data search algorithms to process stored data in the most effective ways. However, I deeply regret my performance in the system design assignment, which exposed my weakness in critical thinking and analysis. Had I approached the task with more critical reflection and research, I could have presented more relevant and appropriate diagrams that contextualised the requirements.

Despite failing in system design, I have significantly improved my problem-solving, communication, literacy, IT and digital skills through rigorous self-evaluation and extensive research. I am now proficient in writing programs from scratch and performing mathematical operations quickly. One of my greatest strengths is my impeccable ability to balance my time between work, school, and family. Moreover, I am an excellent communicator and always eager to learn.

Nevertheless, I need some help with critical analysis and UML diagram analysis. To improve, I need to focus on creating data model diagrams properly. My diagram presentations suffered greatly as a result of this lack of examination.

**Analysis:**

In this module, I aim to lay a strong foundation for my future as a project manager and enhance my ability to handle data efficiently. I have comprehensively understood fundamental concepts and obtained a basic knowledge of Python and OOP. With continued effort, I can improve and master the subject. I am eager to expand my understanding of programming paradigms and strive to become an outstanding professional. I am dedicated to continuous learning, delving deeply into Python and utilising appropriate problem-solving modelling languages. I am confident in my ability to overcome challenges and achieve success in my career through creativity and commitment. This learning journey provides an excellent opportunity to contribute significantly to my aspirations of becoming a program manager.

The core concept of OOP, as mentioned by Doyle (2023), has become clear to me. These concepts are that developers can create well-structured, robust, and efficient software systems by representing entities as objects and using principles like abstraction, encapsulation, inheritance, and polymorphism. Understanding the significance of OOP, as emphasised by Nyakundi (2022), OOP is widely used in many modern programming languages, making it a fundamental and essential concept for developers to learn and apply in their projects. This equipped me with crucial knowledge for future programming and project management endeavours.

**Conclusion:**

I am an IT professional with aspirations to become a program manager and data analyst. This module gave me a strong foundation for achieving my long-term goals. Throughout the module, I gained essential knowledge in OOP and Python, which will enable me to structure and manipulate data effectively. Although UML presents challenges, it is an opportunity for improvement. As someone committed to continuous learning, I am eager to apply my program management and data analysis skills, combining my IT experience with my newfound OOP expertise. While the module's content was valuable, improved tutor interaction and extended learning time would enhance the learning experience. This module has significantly contributed to building a solid foundation for my future career aspirations.

**Action Plan:**

I plan to undertake additional UML diagram design and problem-solving courses to address my critical thinking and analysis weaknesses. Moreover, I will continue researching and reading to improve my performance in future assignments. Additionally, I will allocate more time for extended learning and dedicate sufficient effort to mastering UML and relevant modelling languages.

Moreover, I acknowledge the need for enhanced tutor interaction and extended learning periods to maximise the learning experience. I will provide constructive feedback to the module coordinators and seek ways to improve the module's content and delivery.

Overall, I remain committed to continuous learning and self-improvement. By combining my IT experience with the knowledge gained from this module, I am confident in my ability to excel as a program manager and data analyst in the future.

**References:**

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Nyakundi, H. (2022). *OOP Meaning – What is Object-Oriented Programming?* [online] freeCodeCamp.org. Available at: <https://www.freecodecamp.org/news/what-is-object-oriented-programming/>.