**INTI International College Penang School of Computing**

**3+0 Bachelor of Science (Hons) in Computer Science, in collaboration with Coventry University, UK 3+0 Bachelor of Science (Hons) in Computing, in collaboration with Coventry University, UK**

# Coursework cover sheet

**Section A - To be completed by the student.**

|  |  |
| --- | --- |
| Full Name: Lim Sheue Ying | |
| CU Student ID Number: P22014796 | |
| Semester: 2 | |
| Session:  **April 2023** | |
| Lecturer:  **Puteri Nursyawati Azzuri (puteri.azzuri@newinti.edu.my)** | |
| Module Code and Title:  **4067CEM Software Design** | |
| Assignment No. / Title:  **Continuous Assessment** | % of Module Mark:  **50** |
| Hand out Date:  **12 May 2023** | Due Date:  **Task 1: 02 June 2023, by 11.59pm.**  **Task 2: 07 July 2023, by 11.59pm**  **Task 3: 07 July 2023, by 11.59pm.**  **Task 4: 07 July 2023, by 11.59pm.**  **Task 5: 07 July 2023, by 11.59pm.** |
| Penalties: No late work will be accepted. If you are unable to submit coursework on time due  to extenuating circumstances, you may be eligible for an extension. Please consult the lecturer. | |
| Declaration: I/we the undersigned confirm that I/we have read and agree to abide by the University regulations on plagiarism and cheating and Faculty coursework policies and procedures. I/we confirm that this piece of work is my/our own. I/we consent to the appropriate storage of our work for plagiarism checking.  Signature(s): | |

# Section B - To be completed by the module leader

|  |  |  |
| --- | --- | --- |
| Intended learning outcomes assessed by this work:   1. Understand and apply appropriate concepts, tools, and techniques to each stage of the software development. 2. Understand and apply design patterns to software components in developing new software. 3. Demonstrate an understanding of project planning and working to agreed deadlines, along with professional, interpersonal skills and effective communication required for software production.   5. Demonstrate an awareness of, and ability to apply, social, professional, legal, and ethical standards as documented in relevant laws and professional codes of conduct such as that of  the Malaysian National Computer Confederation. | | |
| Marking scheme | Max | Mark |
| 1. User Story Mapping | 20 |  |
| 2. Setting up a GitHub |  |
| Repository | 10 |
| 3. Creating a Class diagram and |  |
| design pattern selection | 30 |
| 4. Creating a Prototype User |  |
| Interface and Usability Testing | 20 |
| 5. Discuss the ethical issue |  |
| related to the software | 20 |
| Total | 100 |  |

Task 5 – Discuss the ethical issue related to the software (20 marks)

Discuss and do a critical analysis of your software in these areas, privacy concerns, intellectual property rights, and effects on society.

Output – A report in Word format, uploaded to GitHub.

**List of Content**

1. Privacy Concerns ……………………………………………………………………………….5

2.0 Intellectual Property Rights …………………………………………………….......................7

3.0 Effects on Society ……………………………………………………………………………….8

4.0 Conclusion ……………………………………………………………………………………...10

5.0 References ……………………………………………………………………………………...12

The Student Business System, as a comprehensive platform for college student entrepreneurs, has the potential to bring significant benefits and opportunities. However, it is essential to critically analyze its impact on privacy concerns, intellectual property rights, and effects on society, considering the broader implications of its implementation.

**1.0 Privacy Concerns**

Privacy concerns are a crucial aspect to consider when examining the implementation of the Student Business System. As a platform that collects and stores user data, including personal information, business details, and financial transactions, it becomes essential to address privacy issues and ensure the protection of user privacy.

One of the primary concerns relates to data security. Data security encompasses the measures and procedures implemented to safeguard organizational data and mitigate the risk of unauthorized access, data loss, and various forms of cyberattacks. This involves protecting data from destructive events like ransomware that can encrypt or delete data, as well as defending against attacks that can tamper with or compromise the integrity of data (Imperva, 2023). Therefore, the Student Business System should employ robust security measures to safeguard user data from unauthorized access, breaches, or misuse. This includes implementing encryption protocols, secure authentication mechanisms, and access controls to protect sensitive information. By adopting industry-standard security practices, the system can provide users with confidence in the confidentiality and integrity of their data.

Transparency and informed consent are also essential in addressing privacy concerns. Transparency is a principle that promotes an environment of openness and honesty among various stakeholders. It entails making decisions and processes visible to all parties involved, including the selection of technologies, the design of the application, and the structuring of the project plan (Nurkiewicz, 2021). While informed consent refers to the principle that individuals have the ability to willingly and freely participate in research after being provided with comprehensive information about the implications of their involvement. It implies that individuals must give their consent prior to their participation in the research (Skidmore, 2021).

Therefore, the Student Business System should provide users with clear and easily understandable information about the data collected, how it will be used, and any sharing or disclosure practices. Obtaining informed consent from users ensures that they are aware of the data being collected and can make informed decisions about their participation in the system. Additionally, users should have the ability to review, modify, and delete their personal information as needed.

Compliance with privacy laws and regulations is crucial for the Student Business System. It should adhere to applicable data protection laws, such as the General Data Protection Regulation (GDPR) or relevant regional or national regulations. By complying with these laws, the system ensures that user privacy rights are respected and protected.

Regular audits and assessments of the system's privacy practices can help identify any vulnerabilities or areas for improvement. Conducting privacy impact assessments and addressing any identified risks or gaps can further enhance the privacy posture of the Student Business System.

Overall, by prioritizing data security, transparency, informed consent, compliance with regulations, and adopting privacy-enhancing practices, the Student Business System can address privacy concerns and provide users with a trusted and secure environment for their business activities.

**2.0 Intellectual Property Rights**

Intellectual property rights are a significant consideration when examining the Student Business System, particularly in relation to the content and creative works shared or created within the platform. Protecting intellectual property rights is essential to promote innovation, incentivize creativity, and ensure fair and equitable use of original works.

One key aspect is the protection of copyrighted materials. Copyright pertains to the legal entitlement granted to the owner of intellectual property. Put simply, it encompasses the right to duplicate. In practical terms, copyright grants exclusive reproduction privileges solely to the original creators of a work and those individuals or entities authorized by them (Kenton, 2023). The Student Business System should implement measures to prevent unauthorized reproduction, distribution, or use of copyrighted content shared by users. This includes establishing clear guidelines and policies regarding copyright infringement and implementing mechanisms to address and resolve any reported violations. By respecting intellectual property rights, the system encourages creators to share their work with confidence, knowing that their rights will be protected.

The Student Business System should also provide mechanisms to support intellectual property ownership and licensing (Wilson, 2005). This includes enabling users to specify the terms of use for their creative works and providing options for licensing, such as Creative Commons licenses. By facilitating proper attribution and licensing, the system promotes a culture of respect for intellectual property rights and encourages collaboration while ensuring creators' rights are acknowledged.

In cases where the Student Business System itself generates or contributes to intellectual property, such as software code or algorithms, it is crucial to establish clear ownership and licensing agreements (Wilson, 2005). This includes defining the rights and restrictions associated with the system's intellectual property, protecting it from unauthorized use or distribution, and specifying any open-source or proprietary licensing models.

Overall, by upholding and respecting intellectual property rights, the Student Business System encourages creativity, protects original works, and fosters a culture of innovation. By implementing appropriate policies, guidelines, and mechanisms for addressing intellectual property concerns, the system ensures a fair and equitable environment for all users, promoting a thriving community of creators and innovators.

**3.0 Effects on Society**

The Student Business System has the potential to have significant effects on society, shaping various aspects of the business landscape and influencing the way college students engage with entrepreneurship. These effects can be seen in several key areas, including economic impact, educational opportunities, and societal transformation.

One notable effect is the economic impact of the Student Business System. By empowering college students to start and run their businesses, the system contributes to job creation, economic growth, and innovation. It provides a platform for students to showcase their products and services, attract customers, and generate income. This can have a positive ripple effect on local economies, as students become entrepreneurs and contribute to the business ecosystem. Additionally, the system can foster entrepreneurship skills and mindset among students, equipping them with valuable knowledge and experience that can benefit them throughout their careers.

The Student Business System also offers educational opportunities that go beyond traditional classroom settings. It provides a practical and hands-on learning experience for students interested in entrepreneurship. Through the system, students can learn about various aspects of running a business, such as marketing, finance, and operations. They can apply theoretical knowledge to real-world scenarios, make informed decisions, and learn from their successes and failures. This experiential learning approach enhances students' entrepreneurial capabilities and prepares them for future career endeavors.

Furthermore, the Student Business System has the potential to bring about societal transformation by fostering a culture of entrepreneurship and innovation. It encourages students to think creatively, take risks, and pursue their ideas. By supporting and promoting entrepreneurship, the system cultivates an environment where individuals are empowered to pursue their passions and contribute to societal progress. It can inspire students to address pressing social and environmental challenges through their business ventures, fostering a greater sense of purpose and social responsibility.

However, it's important to recognize that the effects on society are not without challenges and considerations. Privacy concerns, data security, and ethical implications need to be carefully addressed to ensure the system's responsible and ethical use. Safeguarding user data, respecting privacy rights, and promoting transparency are crucial to maintain trust and protect individuals' interests.

In conclusion, the Student Business System has the potential to positively impact society by driving economic growth, providing educational opportunities, and fostering innovation and entrepreneurship. By empowering college students to become entrepreneurs, the system creates a pathway for personal and professional development, contributing to the overall well-being of individuals and communities. However, it is important to address potential challenges and considerations to ensure the system's ethical and responsible use, ultimately maximizing its benefits for society at large.

**4.0 Conclusion**

In conclusion, the Student Business System is a comprehensive platform designed to support college student entrepreneurs in their business endeavors. It encompasses a range of features and tools that address the specific needs and challenges faced by these students. Throughout our analysis, we have explored various aspects of the system, including its goals, functionalities, user stories, class diagram, user interface, usability testing questions, and ethical issues.

The Student Business System aims to provide a user-friendly interface, seamless integration with essential business functions, and valuable resources to empower college student entrepreneurs. By incorporating features such as inventory management, financial tracking, marketing tools, project management, analytics, customer service, and educational resources, the system offers a holistic solution for managing and growing businesses. It recognizes the unique context of college students, striking a balance between academic commitments and entrepreneurial pursuits.

The class diagram we developed illustrates the key classes and their relationships within the system, showcasing how entities such as user roles interaction, inventory, orders, suppliers, and others. Through inheritance, associations, and interfaces, the UML diagram provides a visual representation of the user roles’ structure and functionality.

To ensure the system's usability and effectiveness, we have prepared usability testing questions focused on specific functions such as project management and inventory management. These questions allow for evaluating user experiences, identifying areas for improvement, and enhancing the overall user interface and functionality of the system.

Throughout our analysis, we have also considered the impact of the Student Business System on privacy concerns, intellectual property rights, and society as a whole. By addressing privacy issues, protecting intellectual property, and considering the broader societal effects, the system can create a secure, ethical, and inclusive environment for college student entrepreneurs.

In conclusion, the Student Business System holds significant potential for empowering college students in their entrepreneurial journeys. By providing a comprehensive set of features, supporting user needs, and considering ethical considerations, the system can serve as a valuable tool for business management and growth. With careful attention to user feedback, continuous improvement, and adherence to privacy and intellectual property rights, the Student Business System can foster innovation, economic opportunities, and societal impact among college student entrepreneurs.

**5.0 References**

1. Imperva, I. (2023) *What is Data Security: Threats, risks & solutions: Imperva*, *Learning Center*. Available at: https://www.imperva.com/learn/data-security/data-security/ (Accessed: 04 July 2023).
2. Nurkiewicz, A. (2021) *Why transparency in software development partnership gives your product an Edge*, *What is transparency in software development? – Software Things*. Available at: https://softwarethings.pro/blog/what-is-transparency-in-software-development/ (Accessed: 04 July 2023).
3. Skidmore, S. (2021) *Take online courses. earn college credit. Research Schools, Degrees & Careers*, *Study.com | Take Online Courses. Earn College Credit. Research Schools, Degrees & Careers*. Available at: https://study.com/academy/lesson/what-is-informed-consent-in-research-definition-purpose.html (Accessed: 04 July 2023).
4. Kenton, W. (2023) *Copyright definition, types, and how it works*, *Investopedia*. Available at: https://www.investopedia.com/terms/c/copyright.asp (Accessed: 05 July 2023).
5. Wilson, R. (2005) *OSS Watch*. Available at: http://oss-watch.ac.uk/resources/iprguide (Accessed: 05 July 2023).