**Ethical issues related to the software:**

Systems such as the student business system for colleges play a crucial role in facilitating student activities like course enrolment, online learning, and requesting support for issues encountered while studying there. Even though the system has already streamlined most processes of student management, ethical issues still need to be addressed in areas like privacy concerns, intellectual property rights, and the effects the system has on society.

***Privacy concerns:***

A major challenge in developing a software is building trust from its users; this ensures that they feel safe when using it as their personal data is handled by the system. Privacy issues need to be addressed during the system’s design stage rather than doing so during the implementation phase (Kalloniatis et al., 2008). In terms of data security, students' personal information like account credentials (emails and passwords) should be stored safely using industry standards such as hashing algorithms, salt, Transport Layer Security (TLS), or encryption algorithms such as Advanced Encryption Standards (AES) to prevent malicious actors from being able to access sensitive content like courses enrolled or personal identifications like IC number, home address, and phone number. In terms of user access control, the system should also implement user authentication methods like 2 Factor Authentication (2FA) which are time-based codes designed to prevent unauthorised users from gaining access to a victim’s account even if they possess the account credentials through techniques like social engineering, phishing, or keylogging. This ensures that only authorised users have access to sensitive college materials and services offered only to students.

**Intellectual Property Rights:**

The purpose of intellectual property rights is to safeguard materials created by an entity and prevent them from being resold or redistributed illegally. When it comes to the student business system for colleges, the most sensitive materials of the college would be copyrighted materials like course lecture notes, past-year papers, academic journals and reference books.

***Protecting copyrighted materials***

Copyrighted materials can be described as the economic rights given to its creators; these rights include the right to reproduce their work, the right to make copies of their work, and the right to display their work publicly (Field,2006). The system should abide by intellectual property rights by ensuring that any copyrighted content used for academic purposes are in accordance with legal requirements; this includes obtaining permission from original creators of copyrighted material, licensing, and providing attribution to the works of others.

**System’s effects on society:**

The student business system for college manages various administration and operational tasks related to its students. This includes course enrolment, online support for account and payment issues, scheduling appointments with counsellors and lecturers, or requesting transportation to and from campus.

***Increased efficiency***

Through this system, the college administration department can streamline processes which traditionally require tons of paperwork which allows staff and faculty members to divert all attention to supporting students which ultimately improves students’ education quality.

***Improved student experience***

The implementation of the student business system will provide students with easy access to services like course enrolment, digital resources and support for account and payment issues. This allows students to access services offered by the college without having to be on-site for such matters.

***Effective communication***

Using the request form included in the system, students will be able to reach out to relevant departments with issues that they are experiencing. If a student’s account is not usable, they can contact the Finance department to resolve the issue remotely. If a student is struggling with an assignment, they can reach out to lecturers outside a classroom environment to book for consultations. If a student is unable to travel to the campus by themselves, they can contact shuttle services and schedule for pickups and drop-offs. This system ensures that all these services are easily accessible through one site.

***Sustainability and Environmental Impact***

With the introduction of digital content, the lecturers can slowly eliminate the need to use printed materials like notes and exercises in class. Since everything can be done digitally, the notes and exercises can be uploaded to the cloud and downloaded by students whenever necessary. By encouraging paperless workflows to students, the amount of paper waste generated throughout their academic journey can be reduced. Hence, they can contribute to sustainability efforts by preserving natural resources like trees from getting cut down by reducing the demand for papers which minimises carbon footprint associated with paper production.

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