**FYP/FYT Essay on Professional, Ethical, Legal, Security, Social Issues and Responsibilities**

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| In our final year project, we are supposed to build an investment advising system for users. In order to provide professional services, personal information is required for building a personal portfolio that includes risk management of the investment. It will enhance the service quality of our system. In this information age, personal data is valued and is needed to protect so that we can provide reliable service to users. However, personal information leakage and illegal data trading commonly happen. Therefore, protecting personal information comes up with an ethical issue that an engineer in the field of computer science or information technology may face in the workplace.  There are many kinds of security issues that may cause personal information leakage due to the bug of the system which can be prevented by well designed and tested. For example, SQL injection is a common technique to attack the system and to get the data in the database where the private personal data are stored. This kind of application flaw is supposed to be handled by the developer and are required more effort to solve the problem. For example, reliable network transfer with the secure protocol that should be used for private data transfer, is required different cryptography methods and more transfer steps. It decreases the throughput and increases the time delay of the system, but the potential security problem cannot be neglected form designing it. Developers should also perform many security checks because of the possibility of inputting any type of invalid input that may be caused by the malicious attack. According to HKIE rule 4.1, it is the responsibility of the engineer to protect the safety, health, and welfare of the public. Therefore, a product must be qualified with enough testing before it was published. Providing safety service will increase the operating cost of the company but it is a necessary budget for maintaining a reliable product for customers.  Besides the fundamental security problem during the developing process, an illegal issue may happen due to secret trading between the company and the third party. The illegal data trade without the agreement of users has frequently happened before because it is difficult to supervise and strongly depends on the morality of a company. Some companies even implicitly state the clause of usage of customer information by default to make data trading legal. Today, data are more valued and easier to obtain thus some companies want to sell private data to make money. Personal data can be used for predicting the hobbies and favours of the customer so that a customized product can be recommended to the customer. However, it also can be used to defraud the customer by pretending their friends or any officials so that fraudsters can easily gain trust. These cases illustrate the importance of information security and management. According to HKIE rule 3.8, we should not disclose any confidential information to third parties without the client’s consent. Therefore, the client’s information should be well protected because they provide their information based on trusting our service and collecting information aim to provide more advanced service instead of making profits from it.  As an engineer, building a better life experience by innovation is our responsibility. However, every product cannot be perfect because there are always exist some unexpectable flaws. Our job is to minimize the risky when the customer is using it and provide more sophisticated service to them. During the information age, network information security and personal information management become a popular topic in the world. An engineer has the responsibility to face the challenge of illegal activities, produce a more reliable service to customers. | | | |