

CSE4939W CSE Design Laboratory I

Assessment of Realistic Issues for Product Development

DUE DATES: December 1, 11:59pm and December 8, 11:59pm for revised version

For this project, as a team, you are asked to assess the issues for your project as related to product development and commercialization. Many of your projects are very realistic, and it is vital for you to have an understanding of professional, ethical, legal, security, social, global, economic, and other issues that are relevant if you were to attempt to transition your project from a prototype (such as the CSE4939W outcome) to a product.

The following is a list of possible issues that are grouped into two categories: **Security Issues** and **Commercialization Issues**. Many of these issues can arise during the design process that must be considered for potential future commercialization. Your role as a team is to identify 5 relevant issues for your project making sure that you choose 2 or 3 security issues and 3 or 2 from commercialization issues. Each team member is responsible for one of the five identified issues and is required to write an analysis on the applicability of that issue to your project. Each team member must write 2 single-space, 12 point, 1 inch margin pages.

The two categories and their issues are as follows:

Security Issues – each team agrees 2 two or 3 issues

- **Payment Issues:** In e-commerce, there would be a need to protect personally identifiable information (PII) including names, addresses, accounts, credit card numbers, etc. If your project involves selling a product, you must consider payment issues and security by reviewing available commercial products (e.g., for encryption or secure payment) or other security techniques (e.g., Smart Card - see <http://www.smartcardalliance.org>). This should include, in the case of products, the cost associated with using a product or service (e.g., Paypal).
- **HIPAA Security Issues:** In health care, the Health Insurance Portability and Accountability Act (HIPAA) provides a set of security guidelines in the usage, transmission, and sharing of protected health information (PHI) If your project involves individuals that may have to enter personal information (social security, income data, health care data, etc.), you may have to deal with HIPAA regulations (see <http://www.hhs.gov/ocr/hipaa/> and <http://www.hipaa.org/>). For this issue, you need to research the impact and implications of such issues for your project.
- **Privacy and Confidentiality Issues:** This issue differs from HIPAA security issues since it is involving the privacy and confidentiality of personal, financial, and health information. Data privacy involves a determination an understanding of what information can be shared between various parties. Confidentiality refers to the techniques necessary to protect the privacy of information. How do you determine who is allowed to see what information? How do you balance strict information protection via encryption with availability?
- **Authorization and Authentication Issues:** Authorization refers to who is allowed to utilize what information at what times. Authentication involves the process that verifies the identity of user in which information they are authorized to utilize. Who is allowed to authorize access to information? The application owner? User? What level of authentication is supported? Two factor? Multi factor?

Commercialization Issues - each team agrees upon 3 or 2 issues

- **Funding Issues:** If your final project is a prototype, how would you go about producing commercial-grade product for your project? Will you work on the commercial release gratis? Will you seek external funding? If so, who would you approach; e.g., will seek a bank loan, a (federal) grant, a (military-derived) contract?
- **Commercialization Issues:** How would you go about the process of commercializing your project? Would you do so on your own, e.g., by forming a company? Approach a company or venture capitalist? Release an open source or executable evaluation copy? What considerations are there in terms of ownership? How would you price your product? What features would your product need to be commercially viable? Can you estimate the man-hours needed to transition from a prototype to a product? Would you do phase releases? These and many other questions must be addressed.
- **Intellectual Property (IP) Issues:** Who will own the IP rights resulting from your project? Will you attempt to patent any discoveries or processes? How will you make sure that you do not infringe on existing patents? Did you use university resources? If your instructor provided comments that were then incorporated into your project, would that be a university resource? What arrangements will need to be made with the university if you used university resources?
- **Ethical/Legal Issues:** Many projects often involve users providing their login identity (user name and password), with the application taking that information and logging on on their behalf to various web services and/or databases. For example, a project that involves a university student with one login being able to access multiple systems, or a project for electronic payment that allows one individual to set up a single password to be used to pay utilities, credit cards, mortgages, etc., all on-line. For this issue, you must consider the ethical and legal issues for your project in this regard.
- **Software Licensing Issues:** There are many different models that are emerging in regards to software licensing, including per user basis, site license, subscription (web and non-web), hosting of data, open source, etc. One critical software license in the area is the humanitarian free and open source software. Will you sell the rights to your system to another firm and receive royalties, or will you market your system directly? How will open-source software be handled and released?

Remember, each team must identify 2 or 3 security issues or 3 or 2 commercialization issues for a total of 5 issues, where each team member is responsible for one of the five identified issues to write a report on the issue for their project/product. This will include appropriate citations (literature and websites). Aim the discussion at a management level audience.