SENG 401: Social and Professional Issues
Spring 2015

Course Project

It should be apparent by now that the issues arising from the widespread adoption of Information and Communication Technologies (ICTs) are many and complex. In many cases the problems associated with some issues are themselves unsolvable at present with or without ever more sophisticated technical measures.

The goal of this project is to provide you with an opportunity to take a particular given topic and dig deep—far deeper than is possible during lecture sessions. This will involve, amongst other activities:

- Wide reading of source materials relevant to the topic;
- Fair and accurate presentation of all positions surrounding the issues; and
- Well-reasoned and well-argued statements on how forward progress could be made on some of the issues.

The project is worth 25% of your course grade.

The following are the deliverables for the project (with due dates and weights). The topics from which you may choose appear at the end of this document.

1. **Topic choice, brief statement, and draft bibliography**: In this document you will indicate the topic chosen (i.e., one of the ones listed in this document) and with a 200 to 300-word statement indicating the issues you intend to investigate. The document must be double-spaced. A draft bibliography must be provided indicating the sources of information that you intend to use. Weight: 40% of project (i.e., 10% of course grade). Due date: Thursday, February 27th.

2. **Final paper**: This is the full version of the paper (2500 words) plus bibliography. The document must be double-spaced. It must integrate the issues raised in the topic. Your bibliography will most likely have been modified, and changes to the previous document's bibliography must be indicated. Weight: 60% of project (i.e., 15% of course grade). Due date: Thursday, March 27th.

All documents should be formatted in an appropriate extended-essay style (i.e., clear title page with name, student number, and title; single-level section headings; page numbers along bottom; etc.). Please do not use the technical-report format (i.e., numbered sections with sub-sections and sub-sub-sections). Use images, diagrams, tables, etc. where appropriate but if they are obtained from other documents then please ensure citations are used.

Both an electronic and paper copy of each deliverable will be required (i.e., PDF submitted via conneX, paper copy handed in at the start of the day's lecture).

A note about sources: As you will have discovered while blogging on course topics to date there is much hearsay and speculation when hot-button issues involving ICTs are discussed online. Even established news organizations with ostensibly well-trained reporters and good information sources can make mistakes. Although mistakes are always possible, attempts to minimize them are always a good idea. Therefore:

- Wikipedia citations will not be accepted. You may still use Wikipedia as you familiarize yourself with terms, concepts, etc. yet ultimately you need to go to the sources referenced by the Wikipedia article itself. Once you have read the reference then you may cite the reference.

- Your citations must be to reputable sources (newspapers, journals, blogs of known leaders in the field, textbooks, non-fiction books, fiction books, dictionaries, handbooks, broadcast news reports, magazines, etc.). In some cases you may find it very difficult to restrict your citations to such sources and in other cases you may wish to cite a troublesome source if only because it illustrates something that appears to be true about the way an issue is characterized or misunderstood (etc.). ("The Huffington Post" is an example of a resource that falls in between both categories and requires some critical reflection before use.) You may use online portals for reputable sources but where possible please ensure the printed reference is cited rather than the URL you used to access the material.

- Direct quotation of cited material will be sometimes necessary. However, most of the text of your project must be in your own words.

- Bibliographic details must be given using the MLA style. To learn more about this citation style please have a look at the UVic guide available through the library (i.e., go to library.uvic.ca and search for "mla style guide").

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Course Project: Topics

Topic A: Intellectual Property

Lauren Weinstein is a technologist who often comments on issues covered in a course such as SENG 401. He also once remarked that a person's position on IP depends upon whether or not that person has written a book! Some content creators insist on very limited rights for those using their work (i.e., Margaret Atwood's 2011 testimony to parliament opposing the expansion of fair dealing to educational use). Some content users insist that any restriction to their use is unfair and discriminatory. New technologies have always changed the balance of power between creators and users, and ICTs are no different. Canada is in the midst of this conflict as our federal government tries to not only find the proper balance between the needs of creators and users but also participate in a global economy where IP is increasingly an important economic resource (i.e., participation in the Trans Pacific Partnership). In the global arena, international goals may conflict with national goals.

Topic B: ICTs and the environment

The record of ICT's impact on the natural environment is mixed at best. On one hand computers have been a boon: computer modeling helps us understand better how humans are affecting the world's climate; telecommuting helps reduce the consumption of fossil fuels normally used in commuting to and from work; computerized structural analysis has resulted in reduced use of non-renewable resources for common structures while maintaining the same strength. On the other hand computing has been a bane: effluent from processor plants has always been very toxic; the demand for cloud-computing resources has put stress on energy grids; resources freed from some uses are simply applied to others. The interactions between ICTs and the environment are complex.

Topic C: Moral philosophy and ICTs

Margaret Somerville has written in her book "The Ethical Imagination" that our human society needs to find a way towards a "shared ethics". She has come to this conclusion, in part, as a result of her work as an ethicist (i.e., someone who advises others on the ethical concerns raised by research programs or technologies). The introduction of nanomachines, artificial intelligence in social robots, and advanced medical procedures involving ICTs suggest new ethical dilemmas. For example, if the user of a social robot tells the robot that they intend to harm themselves or

others, how should the robot respond? Should it contact a relative? A health professional? The police? As another example nanomachines have not only been proposed for use in precision manufacturing, but they have also been proposed for military use as disassemblers. Will we need global conventions to outlaw the use of replicating versions of such technologies (i.e., similar to the conventions we have now against the use of poison gas)? Advanced medical procedures using ICTs can result in seeming miracles, yet they can be costly. How do we decide which patients will receive such new therapies? What if patients should directly or indirectly refuse such procedures (i.e., in-utero surgeries, end-of-life care)? The challenges towards creating—and the possible benefits arising from the discovery of—a shared ethics are immense.

Topic D: Privacy & Freedom of Expression

A hallmark of any rapidly advancing technology is that its practitioners sometimes use that technology in ways outstripping their understanding of the possible consequences. Nowhere is this more apparent than with the news reports streaming out of the Edward Snowden revelations. It sometimes appears that practitioners view the resulting problems not as an ethical issue but rather as a reason for public-relations exercises or spin doctoring. For example, data once considered "content-less" (i.e., metadata) is still treated in law as if it does not reveal the kind of details about our daily lives that now can be extracted from such data.
Yet government officials respond to the controversy by referring to collection and use of such metadata with narrowly defined terms such as "lawful use". We appear to have arrived in a world where something rhyming with George Orwell's "Big Brother" is not only possible but also desired by some in our liberal democracies, with some politicians calling for the prosecution of journalists who reveal the extent of the use of current surveillance and computing technologies by western intelligence agencies.