

Professional Computing Ethics Essay

Ethics of the Internet of Things

Over the past several years there has been considerable discussion in the Press about hacking. These discussions have assumed heightened significance in a world where most things, soon to include our clothes, have embedded processors, and we can now genuinely talk about an Internet of Everything. The most recent manifestation of these concerns are reports, where cyber-security researchers – “White Hat Hackers” – have been able to hack into the system that controls a car to turn off the engine <http://www.abc.net.au/news/2015-07-22/cybersecurity-researchers-hack-car-and-turn-off-engine/6638622>. Another example was the cyber attack on Ukraine power stations via systems that have been designed to enable remote monitoring and control:

<http://www.wired.com/2016/03/inside-cunning-unprecedented-hack-ukraines-power-grid/>.

A final example is a report of a fridge and smart TVs that were discovered to be sending out spam emails: <http://www.bbc.com/news/technology-25780908>.

This is not to be an essay on hacking. Rather, taking the ACS Code of Ethics/Code of Professional Conduct as a starting point, I would like you to comment on any ethical issues which might arise from creating autonomous, Internet-enabled (or at least communicating), “smart” devices.

Some points to note for your essay:

- Your essay should be 1500-2000 words (excluding references). Essays longer than 2000 words (excluding references) will not be marked. Please report the number of words on the front cover.
- For readability please typeset the text and use a serifed font, e.g. Times rather than Arial.
- Use 1.5 line or double spacing (in MS Word: Format → Paragraph → Line Spacing). Margins should be at least 2cm.
- Use Harvard format for your references. For assistance with this see: <http://guides.is.uwa.edu.au/harvard>
- Don't forget to put your name and student number on the front.
- **Please understand that if you refer to someone else's work you will normally paraphrase their remarks and include a citation (in Harvard format). If you use the authors' exact words that is a quotation, so should be surrounded by quotation marks and include a citation. Cutting and pasting without quotation marks, and particularly without a citation, is plagiarism.** BTW, paraphrasing involves reading something, understanding it (which may involve reading background documents) and then summarising the main points in your own words. Minor syntactic transformations on the starting text is not paraphrasing. If you are unsure of the difference I suggest you go to: http://www.studentservices.uwa.edu.au/ss/learning/online_services/plagiarism_portal In particular, follow the link to the FAQs and the link to the examples of what not to do.
- Hint 1: Excluding quotes – which must be accurate and within quotation marks – you should be aware that contractions, such as “doesn't”, “won't”, etc, are inappropriate in formal writing; spell the phrases out: do not, will not, etc.
- Hint 2: If you are using MS-Word, I strongly suggest you do not ignore the red lining (assumed spelling mistakes) and green lining (assumed grammatical issues). Both can be wrong, e.g. the difference between American and Australian/British spelling or specialist words unknown to the dictionary, but often these suggestions are right. Think about each one before dismissing it.
- Hint 3: A necessary condition for a good mark is at least one reference not given to you in the assignment description.

Examples of excellent essays have been kindly provided by 2013 CITS3200 students Jack Golding and Michael Martis (and made available here with their permission, of course).

http://undergraduate.csse.uwa.edu.au/units/CITS3200/essay/Jack_Golding.pdf

http://undergraduate.csse.uwa.edu.au/units/CITS3200/essay/Michael_Martis.pdf

Finally, please submit the electronic source document version using csubmit, i.e. doc, docx, odt or tex. See the Unit Timetable on the Project web page for the date and time that the submissions close.

Michael J. Wise

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