

Term Paper Proposal

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CSC 300: Professional Responsibilities

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Abstract

one or two paragraphs to describe in very general terms the motivating facts, the question asked, one or two arguments and your ultimate answer and the basic principles upon which it rests. This would be the 30 second summary you might give your mother or friend. [16]

The electronic devices we use are physical objects that we paid (potentially) exorbitant amounts of money for, and therefore they are our property. Traditionally, property that is owned by a person is subject to certain rules that protect it from being modified and used by non-owners. It is illegal, for example, for a person to break into somebody's car and modify the interior coloring or take the stereo out. Recently, however, with regards to electronic devices, this concept of ownership is being challenged.

In June 2010, some owners of Android-based cellular phones were greeted with a surprise as they discovered that two programs, which are unnamed, were deleted from their phone without their consent. [13] This "remote kill switch" similar to previously discovered functionality in Apple's iPhone. [15] The question becomes quite clear: Is it ethical for software developers, hardware manufacturers, and/or service carriers to remotely remove applications from devices *that we own* without our permission? Taking into special account the "Software Engineering Code of Ethics," which guides all software professionals in ethical matters, it becomes quite clear that tampering with a device without consent of the device's owner is unethical at best, and dangerous at worst.

1 Facts

Known facts that are not disputed that lead to your question. Do not judge these facts or make anything like an argument for an answer in here. Just note the facts that give us the general background and end them with the facts leading to the controversy you are interested in. The reader should naturally be asking the question you'll be asking by that point in your paper. In general, attach your facts to a specific case, the more specific and detailed the facts, the better for your analysis. Cite all facts to their sources. [16]

1. The Android Market allows for Google to remotely remove applications from end users' mobile devices as per provision 2.4. [1]
2. Apple also has the capability to remotely remove applications at their discretion. [15]
3. Sony removed the ability for Playstation 3 systems to install alternative OSes (which resulted in a class action lawsuit). [14]
4. Google invoked their "kill switch" in June of 2010 when they removed two applications from the Android Market and the phones that the applications were installed on. [13]
5. Google's Android platform is touted as a free and open source platform. [2]

2 Research Question

Your research question - this is the ethical question you are interested in answering. It should be one simple sentence and lead to a yes/no answer. It needs to be very narrowly focused, specific, and not abstract at all. It's best to question a detailed case in the general area of your interest. Open ended questions are very hard to answer. [16]

Is it ethical for software developers, hardware manufacturers, and/or service carriers to remotely remove applications from devices *that we own* without our permission?

3 Extant arguments

Extant arguments - this is where you gather the arguments made by others interested in the same question. No judgments, just repeat their arguments for the answer

in the best possible light from the arguer's perspective. Cover both sides of your question (the "yes" side and the "no" side) to get a complete picture of how others are thinking about it. Do not include any general ethical principles in here unless they are explicitly written up in the arguments. Cite all arguments to their sources. [16]

It is ethical to allow others to modify our devices without our consent:

- Being able to remotely disable programs is critical to the security of end users. [13] [15]
- The ability to remotely disable functionality is important to company security. [10]

It is not ethical to allow others to modify our devices without our consent:

- Disabling functionality on devices is "unfair and deceptive business practice..." [3]
- Disabling "malicious" software is too broad; "malicious" is ill-defined and can be taken to mean many things. [15]
- Disabling software and/or functionality can hurt the advancement of certain scientific fields in some cases. [10]

4 Applicable analytic principles

Applicable analytic principles - give a list of the basic ethical (and other) principles you'll rely on to come up with your analysis, include several explicit principles from the SE Code of Ethics, deontological principles, utilitarianism (rule-utilitarianism) as well as others that will aid you. Indicate generally how they apply to your specific case. Cite any additional facts or principles you'll need. Cite to sources for the principles you list. [16]

- Professionals should "disclose to appropriate persons or authorities any actual or potential danger...associated with software or related documents." [9]
- They must also "be fair and avoid deception in all statements, particularly public ones, concerning software or related documents, *methods* and tools." [9]
- It is ethical to "respect the privacy of those who will be affected by (the) software." [9]

- Professionals should "Be accurate in stating the characteristics of software on which they work, avoiding not only false claims but also claims that might reasonably be supposed to be speculative, vacuous, deceptive, misleading, or doubtful." [9]
- People should act in a way where their actions are motivated by "good willed" intentions, according to Kant. [7]
- People should act such that it causes the greatest amount of "happiness" for the most people, according to Utilitarian principles. [11]

5 Abstract of Expected Analysis

Give a short abstract of the basics you expect to analyze and present in your paper. Divide it into sections that make sense for your work. One way would be to: a) start with deontological perspectives as a section where you analyze those arguments based on the inherent ethics of the act itself rather than the results or tradeoffs; then, b) use a utilitarian perspective and list the appropriate analyses of the tradeoffs and stakeholders to define the most desired results and how to get them. Be explicit about Turner, CSC 300, Fall 2010 the tradeoffs (what value is balanced against what other value, which stakeholders win, which stakeholders lose...) What is the "utility" in "utilitarian" in your case - what value do you want to advance the most (derived from the general utilitarian "happiness")? How do you maximize (or optimize) it? Note that the SE Code should be the center of your ethical analysis (and remember that it includes both deontological and utilitarian [and more] principles you can utilize). Estimate where you'll end up for your answer (you can change your mind in the final paper!). Keep referencing sources for any additional facts, quotes, or other information you might use here. [16]

1. Remotely disabling or removing software/functionality on a device that one does not own is ethically sound, based on the premise of security, but is not the best way to handle it.
 - (a) If used for the sake of security, the intent is one which is good-willed.
 - (b) There is a tradeoff, however, in that there are other ways to have good intent, but not be invasive (invasion of privacy violates the SE Code). [9]
 - (c) For example, the company could follow the mentality of virus scanning software, which simply informs the user of a problem and asks the user what to do about it, rather than assume that the user wants it gone.

- (d) The tradeoff is that the public gains more freedom with their devices, while the manufacturer and developers lose a little bit of control over the software that interacts with "their" hardware and software.
2. The ability to remotely disable software is easily abused and, as such, could be detrimental to the "public good."
 - (a) If Google or Apple determines that a common program that enables a device to perform unadvertised functionality (Tethering, for example), those applications could be seen as "malicious" and "security threats" and, as such, be subject to deletion.
 - (b) Once again, the tradeoff is between the freedom of the consumer to do what he wants with the device that he owns vs. the freedom of the provider to control their products.
 3. It is ethical for companies to avoid deception in statements regarding their software, and hiding these "kill switches" in the depths of terms of service agreements is a shady practice. [9]
 - (a) It is not obvious and clear when a person buys a phone or other device that Google, Apple, etc. have the ability to remotely disable applications.
 - (b) In the case of Apple's iPhone, the terms of service do not even explicitly mention that Apple has this remote "kill switch" functionality. [6]
 - (c) In the case of Sony's Playstation 3, the company repeatedly said that it would continue supporting the "Other OS" feature. That they went back on their word is very deceptive. [3]
 4. The ability to remotely disable software can be considered dangerous in the case where a company such as Google or Apple is compromised and a malicious person gains the ability to remotely disable software on consumers' devices.
 - (a) This becomes the responsibility of the engineer, who, at some point, must have revealed to other workers and the companies in question the dangers of the software and its capabilities (in this case, the ability to remotely disable functionality). [9]
 - (b) In an admittedly rare case such as this, it is extraordinarily dangerous to have such functionality available, even if it was intended for "good."

References

- [1] “Android market terms of service.” [Online]. Available: <http://www.google.com/mobile/android/market-tos.html>

The Android Market Terms of Service shows the provisions that every user agrees to when using the Android Market on Android smartphones. There is a provision (2.4) that explicitly states that Google may remove applications remotely if an application violates various policies and/or laws.

- [2] “Android overview.” [Online]. Available: http://www.openhandsetalliance.com/android_overview.html

The Open Handset Alliance’s explanation of the Android platform, emphasizing its free and open source nature.

- [3] “Anthony ventura et al v. sony computer entertainment america inc.” [Online]. Available: http://www.wired.com/images_blogs/threatlevel/2010/04/sonysuit.pdf

The Sony lawsuit itself. Has arguments against remote disabling of functionality on devices.

- [4] “Bibtex.” [Online]. Available: http://en.wikipedia.org/wiki/BibTeX#Bibliographic_information_file

Useful in figuring out how to create the .bib file

- [5] “Ieeeannot: A latex ieee annotated bibliography style template.” [Online]. Available: <http://www.barik.net/sw/ieee/>

the web page where you can download the IEEE annotate style to allow annotations in a bibliography. Put it in the same folder as the .bib and .tex files.

- [6] “itunes store terms and conditions.” [Online]. Available: <http://www.apple.com/legal/itunes/us/terms.html>

The iTunes terms of service. These are what every user of the iTunes store must agree to. They do not explicitly say that Apple may remotely remove software.

- [7] “Kant’s moral philosophy.” [Online]. Available: <http://plato.stanford.edu/entries/kant-moral/>

A good guide to Kant’s moral philosophy, explaining the principles therein.

- [8] “Latex/bibliography management.” [Online]. Available: http://en.wikibooks.org/wiki/LaTeX/Bibliography_Management

Useful in figuring out the bibliography structure in tex

- [9] “Software engineering code of ethics.” [Online]. Available: <http://www.acm.org/about/se-code>

The Software Engineering Code of Ethics is the basis upon which this paper is written.

- [10] “Sony’s ps3 update could affect supercomputer users.” [Online]. Available: <http://www.wired.com/gadgetlab/2010/03/sonys-ps3-update-supercomputer-users/>

Explanation of the situation regarding the Playstation 3 and how it affects science.

- [11] “Utilitarianism.” [Online]. Available: http://www.qcc.cuny.edu/socialsciences/ppecorino/intro_text/Chapter%208%20Ethics/Utilitarianism.htm

An explanation of Utilitarian ethics. Useful in analysing problems like the one this paper deals with.

- [12] J. Anderson, “How to write a se code argument / term paper template,” May 2010. [Online]. Available: <http://true-reality.net/csc300archive/documents/paperInst.tex>

Used this to get started making the template.

- [13] R. Cannings, “Android developers: Exercising our remote application removal feature,” June 2010. [Online]. Available: <http://android-developers.blogspot.com/2010/06/exercising-our-remote-application.html>

The blog post where the Android Security Lead Rich Cannings explains that applications were removed from the Android Market as well as from users’ phones remotely.

- [14] D. Kravets, "Dropping ps3 linux support lands sony in court," April 2010. [Online]. Available: <http://www.wired.com/threatlevel/2010/04/playstation-linux/>

Wired article explaining Sony dropping the "Other OS" feature from the PS3, meaning that updating a PS3 would remove a feature that it previously had. Also mentions the lawsuit that resulted.

- [15] C. Sorrel, "Apple sells 60 million iphone apps, jobs confirms kill switch," August 2008. [Online]. Available: <http://www.wired.com/gadgetlab/2008/08/apple-sells-60/>

Wired article explaining that Steve Jobs, CEO of Apple, confirms the existence of a "kill switch" that allows Apple to remotely disable applications on end users' iPhones.

- [16] C. S. Turner, "Term paper proposal," Fall 2010. [Online]. Available: <http://true-reality.net/csc300/resources/assets/Term\%20Paper\%20Proposal\%20F10.pdf>

This source was used to get the requirements for each section of the template.