HCI Professionalism: Ethical concerns in Usability Engineering

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It has been argued that it is in the best interests of IT professionals, to adopt and enforce professional codes in the work place. Yet applying the Australian Computer Society's Code of Ethics in actual every day situations has been left to individuals. This paper aims to help usability engineers interpret the code. This is achieved by utilising five case studies both directly in terms of the ethical issues involved and in the light of the code. The paper also examines the short-comings of the code in the domain of usability engineering. The paper concludes with suggestions of how the code might be enhanced to better aid the HCI professional in their work. [1]

1 Introduction

The focus of this paper is helping Human-Computer Interaction (HCI) professionals apply the Australian Computer Society (ACS) Code of Ethics2 (ACS, 2000a) to actual experiences. The cases in this paper are not artificially created negative scenarios, but sourced from the experiences of usability engineers in the field.

In postings to a professional newsgroup (Howard 1999)[3] two usability engineers lamented the fact that whilst there were ethical codes of conduct, no one had written anything that they found useful in terms of exploring every day case studies in HCI from an ethical viewpoint. In addition, Gotterbarn (2000) has argued that professional IT work should also involve understanding the profession's code of ethics. He argued that it is in the best interests of, in this instance HCI professionals, to adopt and enforce professional codes in the work place. This paper takes up these challenges, by exploring five case studies both directly in terms of the ethical issues involved and in the light of the ACS code.

The use of case studies to achieve the aims of this paper is based on evidence that this is an effective means of exploration for the types of issues this paper examines. The often quoted paper by Anderson et al. (1993) that discusses cases in IT from an ethical viewpoint attests to the merit of using cases to illustrate how professionals might behave appropriately in different situations. Similarly Clement (1993, p 35) in reviewing the popularity of an all day workshop on privacy as it related to computer-supported cooperative work (CSCW) says: "Participants generally found discussing scenarios to be an interesting and productive way to deal with these privacy issues." Also Karat and Karat (1998) in reviewing a book looking at the ethical codes of 30 computing societies with a view to finding things relevant specifically to the HCI community say that significant treatment of computer-specific issues, not just HCI, is difficult to find anywhere in the codes. The evidence from these researchers suggests that the exploration of case studies will therefore help HCI professionals understand how to interpret the ACS code in the types of situations they face in their work.

The paper begins with a look at the moral implications of being a professional. It then goes on to show how the five case studies were sourced, before exploring each in turn. That exploration looks at the ethical issues in these cases, the extent to which the ACS code sheds light on professional behaviour in these situations and further (related) issues that readers may wish to investigate. The paper concludes with a discussion of how the ACS code might be enhanced to better aid the HCI professional in their work.

2 Professionalism

Gotterbarn (2000) recently argued that professional IT work should involve understanding the profession's code of ethics. He argued that it is in the best interests of professionals to adopt and enforce professional codes in the work place. Gotterbarn went on to say that adherence to the code should be monitored and should be part of an employee's regular performance review. This paper seeks to help HCI professionals interpret the ACS code in their workplace.

Yet what have ethics to do with professionalism? Spinello (1997) says that there are four features that qualify people as professional in any field:

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[2] The ACS Code of Ethics and its associated Standard of Conduct are referred to simply as "the code" throughout this paper.

[3] The policy of this newsgroup does not permit direct quoting of postings. The council that administers the policies of the newsgroup is concerned to keep the group a private list for HCI professionals only and is also concerned to avoid the list being accessed by spammers. The author has been granted permission to reference the group only in ways done in this paper.

1. There is a requirement for extensive intellectual training that involves mastering a complex body of knowledge.
2. There is an expectation of contribution to society through services provided.
3. There is an assumption of autonomous judgment in work carried out based on expertise.
4. There is a regulated set of behavioral standards embodied in a code of ethical conduct.

Sizer (1996) argues that a perennial problem in IT is a lack of societal recognition of the need for IT professionals. This changed in Australia when the Australian Council of Professions (ACP) recently recognised IT professionals within the ACS as professionals (ACS, 2000b), alongside doctors, lawyers, engineers and other professionals. The ACS claims this is a world first for IT practitioners, outside the specialist recognition of Software Engineers as part of the professional body of engineers. This is also an effective endorsement of the behavioral standards enforced by the ACS. That is, through the ACS code there is a clear *public* commitment to professional behaviour, on the part of IT professionals of whom the ACS is the representative body in Australia. The moral implications of such a concept of "public trust" is inherent in the very definition of professionalism. This can be seen in the following partial quote from the definition of a profession of the Australian Council of Professions:

"*It is inherent in the definition of a profession that a code of ethics govern the activities of each profession. Such codes require behaviour and practice beyond the personal moral obligations of an individual. They define and demand high standards of behaviour in respect to the services provided to the public and in dealing with professional colleagues. Further, these codes are enforced by the profession and are acknowledged and accepted by the community.*" (ACS, 2000b)

3 Method

As was stated above, the original idea for this paper came as a result of a challenge given in a professional online newsgroup for usability engineers (Howard , 1999). That challenge was for someone to write something useful in terms of exploring every day case studies in HCI from an ethical viewpoint. The author, who is also a member of that newsgroup, believes this paper meets that challenge.

In meeting that challenge it was decided that real experiences rather than easily created negative scenarios needed to be used. Furthermore, it was decided to limit cases to a specific area of HCI, namely usability engineering. The cases studies chosen had to be sufficiently complex to illustrate a number of ethical principles. They should also be ones that encouraged deeper thought on moral issues, not ones in which moral implications were easily discernible, or trivial in nature. The multifaceted demands imposed by the complexities of usability engineering needed to be captured. Thus the initial pool of 18 cases that were contributed by various HCI professionals, were culled to the 5 cases presented in this paper.

The majority of the initial number of case studies were volunteered by members of the above mentioned professional newsgroup. In addition to the above mentioned newsgroup, cases were contributed from usability engineers working out of the Swinburne Computer-Human Interaction Laboratory (SCHIL). These were practitioners (not academics) who were also engaged in PhD studies in HCI, being supervised by Australia's first full professorial chair in the area of HCI[4].

Of the originally 18 cases, each was an example of actual experiences of a usability engineer in their work. Some of these cases overlapped. Others were so general they could apply to any field of IT and as such are dealt with effectively in other forums, for example Burmeister (2000). Some, contributed by members of the newsgroup, were too scant to be useful and though the original contributors were invited to elaborate (by email from the author), they chose not to.

Two of the resultant cases are a blending of cases from the above sources. That is, whilst the author endeavoured to use only actual cases, not ones artificially created, two cases are the blending together of cases contributed by American and Australian usability engineers. In part this blending was done to protect the identities of the contributors. In each case identifying details and minor scenario details have been altered to protect those involved and the identities of contributors.

4 Case Studies

Following are five case studies that are used to illustrate how the ACS code can be applied in the workplace of the HCI professional. Though there is some overlap in the ethical considerations involved, the cases taken together are representative of usability engineering generally.

In the cases that follow references to the ACS code follow the ACS numeric identification of the principles of the code. The code is divided into two levels of statements (Burmeister, 2000). Level 1 statements are the six tenets that express the ideal of the code (ACS, 2000a, section 4.3). Level 2 statements refer to the "Standards of Conduct" and represent explicit principles whose purpose is to exemplify how to interpret the Level 1 statements (ACS, 2000a, sections 4.4 to 4.10).

4.1 Web Testing and Treatment of Participants

In a usability study involving web testing of entry level Secondary School students a participant inadvertently typed in an incorrect URL. The test involved going to various governmental sites, including the White House in the USA. A

[4] In 1996 SCHIL was recognised as a major research centre within Swinburne and Australia's first full professorial chair in the area of HCI was created (SCHIL, 2000).

12 year old girl who wanted information on the White House was supposed to type in www.whitehouse.gov but instead typed www.whitehouse.com and was suddenly transported to a porn site. In the words of the usability engineer conducting the test: 'She was pretty cool about it when shown what happened, but it was pretty intimidating at first.'

As is desirable in usability engineering generally, representative users need to participate in testing of new interfaces. So with most schools now encouraging students to use the internet [for instance 91% of all Victorian schools were connected to the internet in 1998 (McKenzie, 1999)] web testing of new educational sites by students is important.

This case raises an interesting question about using children in usability testing. To what extent should this use of children constrain one's testing strategies? What, if anything, does the code say about the use of minors in studies? Under the first tenet on 'Priorities' is statement 4.5.5 that relates obliquely in that it requires the professional to consider 'accepted community requirements' but with almost all schools now connected to the internet, obviously the community is prepared to accept the risk that minors might be exposed to unwelcome materials on the internet, even when reasonable precautions are taken. At best that statement in the code should lead one to taking precautions that the community would find acceptable.

Acceptable practices might include:

- A section on the consent form requiring the parent (or legal guardian) to state whether consent extends to accessing the entire Internet, or is limited (for example, limited to a mirror site with only safe links).
- Making available some form of counseling if the minor feels uncomfortable. One should beware that minors may express discomfort even a few days after the test, so counseling may need to be available for an extended period.

The fourth tenet on 'Social Implications' has most to say with respect to this case. Statement 4.8.1 requires the professional to consider the 'health and safety of those affected by my work' Also statement 4.8.4 'I must endeavour to understand, and give due regard to, the perceptions of those affected by my work.' And again obliquely, there is the part of statement 4.8.5 that encourages one to increase the feeling of 'control' for those affected by one's work. As regards this case, these statements suggest that the usability professional ought to empower the minor (perhaps with some form of coaching before the usability test) to gain feelings of control, how to interpret mistakes (not just as with the URL example, but as might be normally expected in pilot studies of new software products) so as not to perceive them as reflecting of one's self. With regard to the health and safety of the minor there should perhaps be a greater willingness than with adults to prematurely stop a test if the experiences appear harmful in some way — which would suggest the need for very close monitoring of participant reactions to the test, not just monitoring of how the participant performs the test.

Indirectly this case also shows that in the design of computer-based interactional commerce applications one needs to establish and maintain human values such as trust and accountability. Friedman and Grudin (1998) explore ways of doing this with interface metaphor variants such as amoured cars and pad locks to show differing levels of security. Friedman and Grudin (1998, p 213) say: 'Trust refers to an attitude or perception on the part of users that what they expected or believed about computer-mediated interactions has in fact happened or is true. Accountability refers to the capability for users to know how or why an interaction went wrong and who or what to hold responsible.' When interactions have unintended consequences, such as in this case of usability testing with a minor, trust can be damaged. Accountability provides a means of repairing the damage and reestablishing trust.

With unconstrained web testing there is a risk of a participant getting into places not anticipated by the developers of the test. Where participants are minors, this needs careful monitoring given their limited (as compared to adults) ability to recognise possible harm that might arise from such occurrences. Further issues to explore in the area of web testing might be some forms of coaching specifically aimed at minors. One might also display warnings that mistakes in typing can take you places where you don't want to go and a description of actions that might be followed in such circumstances (such as immediately restarting the study). Informed consent forms might be enhanced to detail any stresses that the participant will encounter in a study.

As with many types of usability studies web testing has the potential to affect one's perception of one's skills or aptitude. It is incumbent on HCI professionals to follow the ethical guideline: 'A usability participant must leave a study feeling no worse when he/she arrived and should, if possible, leave feeling better than when he/she arrived.'

4.2 Intellectual Property

You are a HCI consultant with extensive experience in evaluating web sites and GUIs. You have just received an evaluation contract for a new accounting product made by company A due to your prior experience with e-commerce site evaluation. The work involves assessing the training requirements and the usability of the system. During the initial configuration of your usability laboratory you become aware that software you are to evaluate contains a GUI already patented by a rival company B, which you evaluated several weeks before.

Under your contractual agreements you are not allowed to discuss the evaluation of a product with anyone outside the contract. You therefore have an obligation to company B not to provide information regarding their product to anyone else without their permission. You have a similar obligation to company A.

Can you continue with the evaluation? If you cannot continue with the evaluation how do you inform company A of the patent violation? Do you have an obligation to let Company B know Company A has copied their GUI?

If this were merely a case of a deliberate violation of Intellectual Property Rights (IPR), then it would not be a worth topic for debate in this paper. Addressing the issue of IPR, Rogerson (1998, p 18) says:

"If an organisation or group of individuals invest time, money and effort in creating a piece of software they should be entitled to own the result by virtue of this effort and be given the opportunity to reap an economic reward."

But the issues in this case involve more than just IPR violation. We begin by looking at the code. There is the tenet on "honesty". For instance 4.7.2 "I must not misrepresent my skills or knowledge" and in particular statement 4.7.6 "I must give credit for work done by others where credit is due." By not giving credit to the patented product you would be violating professional ethics and in any case the patent would be protected by law. This also violates principle 4.5.3 about respecting the proprietary nature of others' information. Without ensuring that the company was permitted to use the product, prior using it, you expose the employer to legal liability. Even if the product was sought merely for ideas and then the technology was completely written independently of the patented product, one should acknowledge the source in the documentation. Obviously judgment is called for here — if the intellectual contribution from the product is of a trivial nature, then there would not be a need to acknowledge it.

Yet this usability engineer is caught between the proverbial "rock and a hard place". She could do work for company A (perhaps) legally and if they get sued, that is their problem. But morally she should not take this course of action. She should hold confidentiality for the previous employer (company A). If the patent has been filed and her current employer (company B) has no knowledge, then she has conflicting ethical imperatives that need to be resolved. Unfortunately, this is one area that the ACS code does not address. On the other hand the new ACM/IEEE joint Code of Ethics (Gotterbarn, Miller, Rogerson, 1999) provides a higher principle for just such situations — something that the ACS ought to consider. The new ACM/IEEE joint Code of Ethics says that in situations where there is conflict between tenets of the code, then the overriding principle to be adhered to is the concept of "public trust". In that code "public welfare" is the highest standard. A professional has a responsibility foremost to public welfare and professional judgment is needed to decide how this is best served in difficult moral decision making.

Following the new ACM/IEEE joint Code of Ethics guidelines, then there may be a way forward. Long term both companies (A and B) face possible legal action that serves neither them nor their customers. Therefore it may be argued that public interest is best served by contacting company B and asking permission without revealing company A to company B.

Further issues to explore in the area of intellectual property might include an examination of the use of (web) style guides, such as the Sun Microsystems Java style guide (Sun˚Microsystems,˚Inc., 1999). Three of the usability engineers whom the author corresponded with, said companies they had worked for used this particular style guide, yet nowhere acknowledged this in documentation or online.

For readers wanting to pursue this area further, Spinello (1997) has several sections devoted to reverse engineering patent infringement law suits and counter suits covering both US and Japanese laws.

4.3 Internal users

An internal usability team wanted to usability test a website using half internal and half external participants. Would the consent form designed for external users also be used for the internals? Some members of the usability team argued that the terms of employment were sufficient to require internals participate. Others argued that the purpose of "consent" was to ensure that participants understood why they had been asked, what was going to happen, what data would be collected, how it would be used and that they were free to leave at any time. Given that the company has paid for usability testing, and given that the employee has agreed to work for the company for payment, is the employee REALLY FREE to leave?

Say an internal participant (employee) presented for usability testing, who when confronted with what is expected of them chooses not to sign the consent form. Given that the employee is expected to be away from their work area for a period of time (say 3 hours), what are the ethical implications? If the employee returns to the work area well ahead of time what are the implications for the researchers conducting the usability testing? Also what are they for the employee who may be questioned by their boss, putting them in a possible awkward position of justifying why they returned so soon. Perhaps they declined because they thought that what the company was doing was morally questionable, i.e., they had a conscientious objection to participation in the study. But would they feel free to say that to their boss? Perhaps their declining participation had to do with how the test would be conducted or with the people who would be conducting the test? Whatever the reason, whilst it is relatively easy to decline to sign an informed consent form for an external user, the internal user may have various perceived pressures such as these that make it very difficult for them to decline, even if they really want to.

Some might want to argue that employees would be expected to participate, simply because that is a requirement of their employer. In other words, informed consent procedures do not apply for employees, by accepting to work for their employer they have effectively accepted everything that goes with carrying out their work. Therefore participation is not optional for employees. Yet usability testing is not likely to be part of a standard employment contract. So this is debatable.

Furthermore, if the employee seeking to avoid a possibly an awkward situation by returning to work early, does not return to the work area until the expected time (by say spending the 3 hours of company time to meet a friend, have

a coffee, or engage in some other activity), what are the implications for the employee? If this became known someone might question the employee's motive — had they really intended to participate in the usability test or was this merely a clandestine attempt to gain paid leisure time? What are the implications for the researchers if the employee chooses to stay away from the workplace during this time? To whom are the researchers responsible, if asked by the employee's boss how that employee performed in the usability test — to the employee (protecting their right to decline participation) or the employer (on whose time the employee took an extended break)? The code demands both honesty on the part of the HCI professional and protection of client confidentially. Resolving conflicts such as these requires professional judgment.

In the view of the author the best approach in this case would be to return to work.

A different related issue one could explore might be to examine internal users in the usability lab, when their manager is in the observation room. Several of the users might be viewed struggling by their manager. This might have a subtle effect on their next performance appraisal. Do you allow managers to observe? There are many instances when managers ought to participate in the usability test. There are also well established procedures for ensuring participants understand that it is the technology not the person that is being tested (Dumas and Redish, 1994). Yet despite this, managers may (ab)use usability test results to disadvantage particular employees.

4.4 Altering results

You have been asked to observe how junior management use new accounting software at a leading city accountancy firm. As part of informed consent, staff are informed that they will remain anonymous. As part of your observations, you notice that many of the junior management staff are making a particular data entry error when using this software. These errors are causing the accountancy firm to lose profit. Company policy states clearly that workers salaries will be docked for clear mistakes leading to loss of company profit. Do you take the edge off the results to protect the people who helped you in the study?

There are a number of ethical issues in this case. Clearly there is a need to protect the anonymity of participants. Statement 4.5.4 says one "must endeavour to preserve the confidentiality of the information of others". The HCI professional is obligated to report to the company but in a way that does not identify participants. Given the repeated nature of this error, it would seem more reasonable to report this as a problem with the interface, i.e., a problem that leads users to make the same costly (to the company) error. Professional conduct requires that the company be notified of this problem, yet it needs to be done carefully. In a study such as this there may be a limited amount of internal users that could have been tested, such that it may not be difficult for inquisitive individuals to discover the identities of participants.

On the other hand the code also directs one to honest portrayal of findings. Altering results in the sense suggested here would be to act dishonestly. Statement 4.7.4 says "I must give opinions which are as far as possible unbiased and objective." Similarly statement 4.7.1 says one must not knowingly mislead one's clients.

Finally, statement 4.5.6 says "I must advise my clients and employers as soon as possible of any conflicts of interest or conscientious objections which face me in connection with my work." Clearly given this person is considering protecting participants in this way, suggests he or she has conscientious objections that they ought to inform both clients and management about.

It is all too easy to blame junior management in this case for "making a particular data entry error when using this software". But this is reminiscent of many a case of supposed "operator error" that in fact turns out to be a problem of a poorly designed interface. Given this is directly in the purview of the HCI professional, they more than any IT professional ought to see this as an opportunity for sharing their expert knowledge in a way that protects junior management and protects the profits of this accounting firm at the same time, by suggesting a suitable means to establishing a more ecological interface.

Alternatively, this may in fact be an issue of training. That is the fault may lie not with the interface but with how these staff are trained in using the product. Having identified a particular, recurring problem could lead to better training of staff in the future and show that current staff need to do some retraining in the problem area.

4.5 Privacy

You are contracted by a Web design consultancy company to interview their staff to ascertain their current knowledge. The aim of the study is to inform the company about the type of training courses they need to implement. The aim is therefore to highlight areas of overall weakness as opposed to individual shortcomings. Despite this, the type of data you collect will be able to identify individual's weaknesses. Informed consent clearly states that comments made to you by interviewees are to remain private. Following the study, a senior Vice President of the company approaches you, asking you "who did well in the study?" What do you say?

Aside from the fact that question from management such as this do happen, it is not a reasonable question. The usability engineer needs to point this out. In this instance it may be that the senior VP wants to make use of examples on video tapes (gathered for one purpose, usability testing), for another purpose. This raises issues about informed consent, that is, consent may have been given for the initial video taping, but participants may not have been informed as to the ultimate audience(s) of the video. This violates not only the privacy of the participants, but also has the potential to harm the designers involved in the initial video taping session.

This case deals principally with the issue of privacy. The code deals with this in a number of ways. IT professionals are obliged to preserve the integrity and security of other's information (4.5.2) and to consider and respect people's privacy (4.8.2). The usability engineer is responsible to

adequately protect the privacy of their participants. Failing to protect their privacy, even from management within the testing organisation is a breach of the contractual agreement entered into with the study's participants.

There is a complicating factor in usability testing when video is used. While some types of data gathering such as keystroke analysis or the use of questionnaires permit relatively easy disguising of participant details, the use of video to demonstrate usability testing outcomes can make this near impossible. Though voices can be disguised and video masking can be done, usability testing may be specifically looking at qualities of speech or gaze (Mackay, 1991; Mackay, 1995). In such situations management should not see the video; the usability engineer has the expertise and should be relied upon to do their job. Alternatively management should see all observations so as to be able to make an informed judgment. This alternative is not likely to be acceptable to management however, given time pressures and other commitments. In any case, the consent form would need to show that management will be viewing the videos and/or participating in the observation of participants.

One area in which the moral aspects of privacy in relation to HCI have been explored in depth is that of computer-supported cooperative work (CSCW) technologies. The following is a brief review of pertinent aspects of this that may prove fruitful for privacy investigations in other areas of HCI.

"A central feature of CSCW applications is the electronic capture and dissemination of detailed personal information" (Clement, 1993, p 34). Fine-grained information concerning individual behaviour and performance is available to a wider audience. CSCW privacy issues include equality/reciprocity (what you may see of me is what I may see of you), feedback (knowing what information about oneself is accessible to whom), group ownership of resources or information (these need not necessarily be regarded as owned exclusively by the employer), and fair information practice (including due practice and informed consent. A key intention is to enable people to exercise "informational self-determination" — the right to determine when and under what circumstances their personal data may be processed.) (Allen, 1993; Clement, 1993). Privacy (notions of personal and collective dignity, identity and autonomy) is an emotional label and perhaps a better way of handling related issues is under labels such as "social control"[5] or "fair information practice". For example, group ownership implies privacy diminution in that in order to function "group members must have personal information about each other to define themselves as a group, and mutually influence each other's behaviour" (Allen, 1993, p 41). "The question for CSCW designers is not so much how to alleviate privacy concerns, but how to support the group interactions that constantly negotiate appropriate levels of privacy intrusion, social control, and control over space and resources." (Allen, 1993, p 41)

Further issues to explore in the area of privacy might include whether different types of privacy need to be considered as separate issues. For instance intrusion versus exposure, or personal versus group privacy. There may also be trade-offs and priorities to consider, such as sacrificing a degree of privacy to increase security.

5 Conclusion

A major aim of this paper has been to help HCI professionals learn from ethical scenarios. As Clement and Wagner (1996, p 234) put it:

"*We think that "grounded scenarios" — rich descriptions of actual conflicts and of how participants cope with them — might sharpen system designers' awareness of ethical problems in general, support their analytical understanding and help them enter a dialogue with others in the field.*"

The paper has sought to achieve this by helping HCI professionals better understand how to apply the ACS Code of Ethics in their workplace. This has been done with the presupposition that when professionals understand their code they are able to give principled reasons for the decisions they reach in particular situations. For instance Langford (1995) suggests that one role of a code is to help the professional to identify and think through potential ethical issues and how to resolve them BEFORE actual problems arise.

Ethical decision making often requires balancing numerous factors. The ACS code is not particularly directive when it comes to resolving conflicts between various principles of the code in particular situations. In other words choosing between right and wrong is reasonably straightforward, especially when professionals have a good grounding in the code of conduct of their professional society. It is when choosing between right and right that professional judgment is really tested. A more explicit approach to conflict resolution is that of the new ACM/IEEE joint Code of Ethics which requires that in cases of conflict between right and right, "public welfare" be the overriding principle (which would help in case 4.2). In a future revision of the ACS code it would be worth considering if members also believe that some ethical principles (such as public welfare) take precedence over others. If so, such precedence ought to clearly stated within the code.

Barroso Asenjo (1997) reported on a study of 15 codes of ethics of computing companies, which verified earlier studies of computer society codes that revealed 4 main tenets: privacy, accuracy (as in faithfulness and precision in data transmission), property and accessibility. The ACS code likewise addresses these 4 tenets in key ways and hence case 4.5 (privacy) is decisively dealt with by the code. Yet each of the cases were dealt with to a significant extent by the code.

The privacy discussion suggests that in increasingly complex information spaces, such as those of groupware,

[5] One way forward here might be the adaptation for HCI of the Software Engineering based Software Development Impact Statement (Gotterbarn, 1999) for complex socio-technical safety-critical software engineering projects.

intranets and internet work practices, there may be a need for computer societies to rethinking the issue of privacy as it relates to group ownership. It appears that for the effective functioning of groups there is a requirement for the diminution of individual privacy. Lessons from ethnographic studies and CSCW may mean HCI professionals can contribute valuably to deciding how the society might guide members to appropriate levels of privacy intrusion and social control.

To foster further discussion in matters of ethical decision making, readers faced with special ethical computing situations are encouraged to share them with their colleagues, ACS staff, or with the Australian Institute of Computer Ethics (AICE, 2000).

As the ACS Standard of Conduct concludes, so does this paper:

In summary, a member is expected to act at all times in a manner likely to be judged by informed, respected, and experienced peers in possession of all of the facts as the most ethical way to act in the circumstances.

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