

Issues in Multimedia

Authoring Lecture 21: Social Impact Statements

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Summary

- “Social Impact Statements: Engaging Public Participation in Information Technology Design” taken from *Human Values and the Design of Computer Technology*
- Originally presented at ‘96 conference
- Focus primarily on broadly **ethical** (including socioeconomicopolitical) values (as opposed to, e.g., aesthetic ones)
- In part about rendering values explicit so debatable
- Similar to environmental impact statement

Writing an SIS: Preparation

- SIS produced early in dev process
- Can influence schedule, requirements, budget
- Use diverse design team: end users, developers, managers, clients (where possible)

Writing an SIS: Evaluation I

- Review panel must evaluate SIS
- Often external (see next slide)
- Can use public hearings, citizen groups

Writing an SIS: Evaluation 2

Review Panels

Organization	Example Review Panels
Government agencies	Auditor general, security intelligence review committee, privy council
Provincial government	Similar
Public utilities	Review boards
Commercial industries (often optional)	Board of directors, shareholder meetings, management, ethics committees, professional associations
Regulated industries	Regulatory bodies (e.g. CRTC)
Research groups (often optional)	Professional organizations (ACM, IEEE), university ethics committees, departmental meetings

Writing an SIS: Enforcement

- Crucial!
- Review panel might also do enforcement
- Might require legal sanctions in some cases
- Must have “teeth”

Remarks on the SII list and case study (I)

- Be sure to distinguish goals from means. E.g., “We propose to develop a Web 2.0 application in Flash with ActionScript and an XML database backend” is not a goal, but a (brief) enumeration of means
- Identifying “external” stakeholders difficult. Usefulness of outside consultation
- Stakeholders can be affected positively or negatively (or both in different ways)

Remarks on the SII list and case study (II)

- Biases can be of several sorts:
 - preexisting
 - technical
 - emergent

Remarks on the SII list and case study (III)

Biases

- Preexisting: “arise from roots in societal incitations, practices and attitudes that preexist the technology” (e.g. racism, sexism, homophobia, etc.)
- Technical biases: due to limitation of technical tools (e.g. imperfect colour-matching on an LCD, discretized versions of continuous functions, etc.)
- Emergent biases: most difficult to discover - arise when a technology is put to a different use than intended (cf. Lecture 5 and “skinning”)

Remarks on the SII list and case study (IV)

- Computer security is a topic in itself (cf. net.knowledge)
- Security is always a trade-off between convenience and robustness - think of password policies
- Failure of software: what happens when an exception is thrown? What sorts of errors can the libraries you are using return?

Remarks on the SII list and case study (V)

- Failures: How much of the system are you responsible for? If you are a software developer, how will you tell whether your software is at fault vs. the hardware or OS is at fault?
- Failures: Does error checking compromise other goals of your software (e.g. speed)?
- Failures: Can an illustrator, render-expert or soundguru be “the weakest link”? YES.

Remarks on the SII list and case study (VI)

- Misuse: what counts as misuse?
iBook spanning vs. mirroring case
- Individual rights vs. societal benefits: What about societal rights and individual benefits?
- Centralization / Decentralization: Computer networking has come and gone several times - here to stay?
- Centralization / Decentralization: Where do we store our data and output?

Remarks on the SII list and case study (VII)

- Preserve democratic principles: how do we aggregate the preferences of multiple users?
- Example of “Condorcet’s voting paradox”:

User A has feature preference ordering: 1,2,3

User B has ordering: 2,3,1

User C has ordering: 3,1,2

Note that 1 is preferred to 2 twice, 2 is preferred to 3 twice, but also 3 is preferred to 1 twice!

Remarks on the SII list and case study (VIII)

- Promote diverse access: cf. Lecture 12
- Recognize needs for staff, training, hardware: Often overlooked. Even a web page can sometimes need staff (think of an online forum)
- Describe plan for measuring the success of new system: should also include how the success (and failure) would lead towards 2.0 of the system - this does not mean plan for 2.0 in detail, much less “put things off” for 2.0

TTQs

- What would be a good additional item for the Social Impact Issues list?
- Discuss a specific case where computing technology has had unfortunate consequences which would likely not have happened without its use.
- Write a SIS for Berners-Lee's WWW proposal.
- How does one determine what the stakeholders are for a given system?

Project ideas

- Create a draft of a SIS for an information system you have helped develop at work or in other courses.
- Find a SIS for an information system you have helped develop at work or in other courses and discuss how it renders specific values explicit. (You will want to do more than simply state them.)
- Study Bunge's proposals for overcoming the Condorcet paradox and show how to use them in computer systems.