Software Security
415.725SC
Lecture 3: Student Presentations

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Choosing the Technical Article you will Present

• Please refer to Handout 3: Bibliography.

• Handout 4 is a class list, indicating the Order in which students will make presentations.

• Pick a few papers you would like to present.

• I will briefly discuss about half of these papers, then I'll call for volunteers. If there is more than one volunteer, the person with the lowest "Order" will present this paper.

Preparing your Presentation

- Read your paper carefully.

- Outline your paper: 1 "point" per page.

- Pick one "point" to present in detail in your presentation.

- Outline your presentation: one sentence per slide.

- Construct a first draft of your presentation: use PowerPoint or your favourite presentation builder (not MS Word).

- Revise your presentation at least once.

Preparing your Presentation (cont.)

• Show your slides to me, at least 48 hours before your presentation.

• Email your .pps or .pdf to me, at least 30 hours before your presentation, so I can mount it on the class website.

• I must have hardcopy of your article at least one week in advance of your presentation, to prepare class handouts.

• Rehearse your presentation with a friend, at least once.

• You'll spend 10+ hours preparing your presentation.

Contents of Your Presentation

- You should prepare seven to ten slides:
  - introduction
  - outline
  - four to seven slides, explaining one topic in detail
  - conclusion
- Your presentation should take nine to thirteen minutes, excluding questions & discussion.
- You should include at least one question in your slides, to stimulate discussion.

My Expectations

- Presenters should show appreciative and critical understanding of their article, through
  - the contents of their slides
  - their oral comments when presenting their slides, and
  - their handling of the discussion.
- Non-presenters should have read the article before the presentation begins.
- All students should have a working knowledge of what was presented & discussed in class. (This will be tested in your final examination.)

Your Term Project Report

- When reading your article, you should start thinking about how to use it as a basis for a written report. Initial ideas:
  - Compare/contrast your article's technology (or analysis or research finding) to some other published work
  - Discover an article describing an extension or application of this technology

Requirements for Reports

- Your report should consist of nine to thirteen pages of 12-point type with generous margins and 1.5 line spacing.
- If you use someone else's words, put these in quotation marks and add a reference to your source.
- You should make good use of at least three published works, which must be listed in your bibliography.
- Try to match the style of one of the articles you read in this class.
- Technical words must be spelled and used correctly.
- You should use a spell-checker and a grammar checker (e.g. MS Word), however I will not mark you down for grammatical mistakes and spelling errors on non-technical words.

Final Oral Presentations

- You will make a very short (5-minute, 3-slide) oral presentation on your report, sometime during the last three weeks of lectures.

- If you make an early presentation you can get some feedback in time to improve your report.

Ethical Issues in Computer Security (§11.5 of Pfleeger)

"… an understanding of ethics can help in dealing with issues of computer security"

Outline

- What is ethics?
  - "Through choices, each person defines a personal set of ethical practices [when deciding right actions from wrong actions]."
  - Ethics is not law, not religion, and not universal.
- Principles of Ethical Reasoning
  - How to examine a case for ethical issues.
  - Taxonomy of ethics: consequence *vs* rule-based; individual *vs* universal.
  - ✦ You make choices every minute, are all your choices ethical?

Universal, Rule-Based Ethics

- Pfleeger suggests the following "basic moral principles" are "universal, self-evident, natural rules":
  - The right to know
  - The right to privacy
  - The right to fair compensation for work
- ✦ Should you expect users to obey these rules, when you are designing a security system?
- ✦ Should you enforce these rules in your systems?

Our Duties, from Sir David Ross

- Fidelity (truthfulness)

- Reparation (compensate for wrongful acts)

- Gratitude (thankfulness for kind acts)

- Justice (distribute happiness by merit)

- Beneficence (help other people)

- Nonmaleficience (don't hurt other people)

- Self-improvement (both mentally and morally, *e.g.* learn from your mistakes)

✦ Which of these duties support our "rights" to knowledge, privacy and compensation?

✦ Are these universal duties, or merely "Western/Christian"?

Christian Ethics, in brief (Huston Smith, 1989)

- Moses: don't murder, commit adultery, steal, lie.

- New Testament: faith, hope, love, charity.

- Golden Rule: "Do unto others as you would have them do unto you."

✦ Which of these ethics support our "rights" to knowledge, privacy and compensation?

Confucian Ethics, in brief

- Jen (human-heartedness): "Measure the feelings of others by your own."

- Chun tzu (mature person): "How can I accommodate you?" not "What can I get from you?"

- Li (propriety): follow Confucius' example, nothing in excess, respect for elders, …

- Te (power of moral example): leaders must show good character.

- Wen (the arts of peace): music, poetry, painting; contrast with the arts of war or commerce.

✦ Which of these ethics support our "rights" to knowledge, privacy and compensation?

Islamic Ethics, in brief

- Economic: don't charge interest (but you may invest for a share of profit); all offspring should inherit; 2.5% to charity each year.

- Social: racial equality, no infanticide, women must consent to marriage.

- Military: punish wrongdoers to the full extent of injury done; honour all agreements; no mutilation of wounded.

- Religious: "Let there be no compulsion in religion." (2:257)

✦ Which of these ethics support our "rights" to knowledge, privacy and compensation?

Conclusion

- Because ethics are personal, and conditioned by our cultures, they won't "always work" as a control in any security system. (But all controls are imperfect!)
- I believe security engineers must consider how their systems will affect (and be affected by) the ethics of the likely users.

Schedule

- Monday 31 July:
  - C. Mann, "Who will own your next good idea?", *The.Standard.com*, 19 June 2000.
  - P. Radatti, "CyberSoft, Incorporated Moral Guidelines", www.cyber.com/papers/lock.html.
- Wednesday 2 August:
  - Collberg & Thomborson, "Watermarking, Tamper-Proofing, and Obfuscation -- Tools for Software Protection", July 2000.
- Thursday 3 August:
  - student presentations #1 (Macness) and #2 (Qi) or #3 (Li)