CMPUT 605

Ethics in the Software Development Life Cycle: A Case Study of Health Informatics Systems

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My Background

- B.Sc. Honors Computer Science, American University of Nigeria
- Worked on various software development projects
- Worked on various web applications
- Research focus is on finding social relevance for software and technology
- Research area is in health informatics systems

My Background

- Two courses during my undergraduate studies
- Software Engineering Professional Ethics (SEN 400)
- Ethics and Leadership (PHI 300)

PHI 300

- Ethics in general
    - Philosophy
    - Conceptual issues
    - Society
    - Medicine
    - Leadership

SEN 400

- Ethics in the context of software engineering
- Awareness of ethical issues
  - Ethical issues
  - Codes of ethics and conduct (ACM, BCS, IEEE)
  - Frameworks for software engineering ethics
  - Articles on ethics in software engineering

Papers

- Donald Gotterbarn's paper titled "Software Engineering Ethics"
- Schmoldt and Thompson's paper titled "Ethics in Computer Software Design and Development"
- ACM/IEEE Software Engineering Code of Ethics and Professional Conduct
- Software Engineering Body of Knowledge (SWEBOK)

Ethics and Software

- Ethics comes into play whenever well-being of people is involved
- People use software
- Ethical problems in software design include privacy, accuracy, property, accessibility, quality of life (Schmoldt et al)
- Software engineers need to be aware that their decisions are not just technical

Ethics and Software

- Software engineering ethics can be divided into General, Professional, and Technical (Gotterbarn)
- This classification helps train developers on how to resolve questions relating to ethics

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- How to identify ethical issues when developing software
- Distilling ethical issues from user requirements
- What can be done at each of the stages of software development
- Interpreting existing codes of ethics
- Health informatics systems as case study

Scenario

- A software system is created to digitize health records
- During requirement gathering, analysts overlooked impact to workforce
- When new system is introduced, workforce is deskilled and needs training
- When new system is introduced, old workforce is replaced with a tech-savvy workforce

Scenario

- A software system is used to make decisions about the likelihood of survival of patients
- During development, the software system had a test case that gave an unexpected result, but was ignored as a one-time occurrence
- The unexpected result occurs again, leading a practitioner to make a wrong decision