

Concept for a Project on the Creation of Software, Professionalism, and Responsibility

Who wear our track record

This project is concerned with two chief issues that bear on assuring reliability and quality of software and appropriate protection of consumers from injury, monetary loss, or inconvenience. One has to do with the formation of a profession in a robust sense, with the education and occupational self-identification of practitioners. The other, not entirely separate, has to do with establishing appropriate standards of care, especially with the division of labor between technical standards and procedures and ethical standards. *People in education, ethics, law*

Many people are tempted to refer to practitioners as *software developers* software engineers although many practitioners did not graduate from accredited engineering programs or even receive specific preparation at the college level. Of those prepared at the college level, many received their training from computer science departments. Almost all states in the U.S. bar software creators from presenting themselves as engineers unless they have degrees from bona fide engineering programs. Corresponding to this split in the educational preparation of those who create software are two professional associations whose membership includes the creators of software, the Institute of Electrical and Electronics Engineers (IEEE) and the Association of Computing Machinery (ACM).

The history of the various engineering disciplines shows a pattern of formation of professional associations and of formulation and adoption of technical codes and procedures (some of which become government mandated) and of adoption and revision of codes of ethics. This orientation toward professionalism appeared early and continues to the present, with a period of intensive activity in revising codes in the late 70's and the

software developers
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formation of an umbrella organization, the American Association of Engineering Societies in the mid 80's. The current upswing of interest in the IEEE and the ACM in jointly promoting professionalism of software creators and establishing appropriate technical and ethical standards attests to the timeliness of these issues. These organizations are apparently ready to respond to some notable lacks: the absence of shared understandings among practioners about their individual responsibilities and the absence of orientation toward defining and maintaining appropriate standards of care in creating and reviewing software.

In the meantime, specialists within and outside the professional associations have been investigating and devising technical procedures for creating and reviewing software in order to insure reliability and prevent loss and injury to consumers. It is yet to be determined what should be the division of labor between technical methods and procedures and ethical standards for helping practioners to identify and meet an appropriate standard of care.

Lawyers concerned with liability for injury and loss from software defects and failures have an obvious interest in how relevant parties in the world of software address issues of individual responsibility, company responsibility, appropriate standards of care, technical methods and procedures, and ethical standards in order to assure quality and reliability. At the same time, the experience of thoughtful members of the bar in dealing with problems arising from software defects and failures can inform the efforts of those within the software world and observers, such as ethics specialists, who are concerned with individual and company responsibility and appropriate standards of care.