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Dr. Vivian Weil, Director
Center for the Study of Ethics in the Professions
Illinois Institute of Technology
Life Sciences Bldg., Rio 166
3101 S. Dearborn St.
Chicago, 60616-3793

Dear Vivian:

I am sorry for the tardy response to your proposal on ethics in software engineering. Because your letter was mailed to illy old address, it took two weeks to reach me. Please correct Your record of my address.

I am interested in the project for several reasons. First, I have long been interested in ethical issues in the use of computers, and I teach a course oil engineering ethics. Second, I have begun a new research project oil fault-tolerant software, ail important but neglected aspect of software engineering. Third. many people here in Urbana are interested in .software ethics and information ethics. y1 -e have just formed an electronic discussion group on ethical issues in reseal ch in cyberspace.

That said, I am not yet convinced about the importance of the current version of the proposed project. As a subdiscipline of computer science, software engineering has struggled to gain recognition, but its definition is well understood. The problems of software engineering are primarily technological: we still lack the technical and managerial means to produce reliable, dependable software. Furthermore, despite the efforts of the Software Engineering Institute at Carnegie-Mellon University to train software engineers in current best practices in software specification, design, testing, and maintenance, educational programs in software engineering vary widely in quality and in their attitudes toward professionalism. Without good solutions to these technical, managerial, and educational problems, efforts to increase all awareness of moral responsibility among software engineers are moot.

In response to specific points in your proposal:

- Large software systems do not merely- resemble traditional engineering products. They are engineering products. but they- differ from traditional products in their inherent complexity: large internal state spaces, nonlinear behavior, multiple functions, lack of standard parts. etc.

- The problem with standards in computing is that there are so many to choose from.

And yes, there are already many software standards.

A good person to have on your team would be Nancy Leveson. She initiated the field of software safety. She is editor-in-chief of *IEEE Transactions on Software Engineering,* and she holds an endowed chair at the University of Washington in Seattle.

I don't want to extinguish your enthusiasm for a project on ethics and software engineering: after all, I am interested in both. But I would need to be convinced about the importance of the project's goals.

Yours truly,

Michael C. Loui
Professor
Electrical f? Computer Engineering