

Interviewee: Stephen Unger (SU)
Interviewer: Michael Davis (MD)
Location: West Nyack, NY
Date: 11/13/2002 (*approved*)

QUESTIONNAIRE

SOFTWARE DEVELOPERS WRITE A CODE OF ETHICS

1. What is your educational background?

BS in EE (Brooklyn Polytechnic, 1952); MS in EE (MIT, 1953); and ScD in EE (MIT, 1957).

2. What sort of organization do you work for? What do you do there?

I am a professor in the Computer Science Department of Columbia University. I also am a professor in the Electrical Engineering Department. Until recently, I was chair of Computer Engineering. I teach, research, and write.

3. What experience, if any, have you had in software development? If you are a software developer, what led you into that field?

Before I became a professor, I worked at Bell Labs [1957-61]. As part of a re-organization, I was asked to head a group to develop a compiler for the first electronic telephone switching system (ESS). I agreed to do that for a limited time. I was in charge of the compiler group for two years. Later I did theoretical work on software (e.g., a program for a syntax analyzer).

4. Are you an engineer?

Yes. I dislike the term “computer science”. Science is about understanding nature. Engineering is about making artifacts. Software is an artifact. Computer science is about making computers and software. That’s engineering, as far I am concerned.

5. How did you hear about the IEEE/ACM Joint Task force on Software Engineering and Professional Practice (SEEPP)?

I believe Don Gotterbarn contacted me. That was in the early 1990s (at a conference or just afterward).

6. What led you to participate in SEEPP’s work?

I had been involved in developing a number of codes of engineering ethics: IEEE code of 1979; IEEE code of 1987; and the American Association of Engineering Societies (AAES) code of 1984. This seemed like another opportunity to help engineers do what they should.

7. Were you familiar with codes of ethics before you became involved in SEEPP? Explain.

Yes. See 6 above.

8. In what ways did you participate in SEEPP's work, especially in the process of preparing the code? (The more details, the better.)

Email comments. I sent you a copy of my comments by email when we arranged this interview (attached).

9. By what means did you participate? For example, did you participate by email, or by phone, or through face-to-face meetings, or by letter, or by informal conversation, or the like?

Only email, as far as I can recall.

10. Did any of these means of participation seem to work better than the others? Any seem to work worse? Which would you recommend as best? Why?

My general experience is that face-to-face is the best. But email is pretty good. You can think first and have a good exchange when you're ready for it.

11. Any events that particularly stick in your mind relevant to the process? (The more details, the better.)

No.

12. Do you have any documents, paper or electronic, relevant to your participation in the process? May we have a copy?

Yes, the ones I've already sent. I will look for others.

13. Has your thinking about codes of ethics changed as a result of your participation in SEEPP's work? How?

No.

14. What, in your opinion, is important about having a code of ethics?

A code is a good tool for teaching students what they should do about their professional responsibilities. It also can be a good excuse to be ethical. It helps in arguing with managers. It can serve as a useful reminder to practicing engineers.

15. Is there anything about your *participation* that you are especially pleased with or unhappy about?

No.

16. Is there anything about the *final code* that you are especially pleased with or unhappy about?

I think it covers a lot of ground and makes many good points.

17. Is there anyone whose participation in the process seems to you especially important? Explain.

I wasn't involved enough to say.

18. Anyone who you think we should be sure to talk to? Explain.

No.

19. If you had been in charge of the process, what, if anything, would you have done differently?

I'm fuzzy about events, but I think it would have been useful to have discussions of the code among practitioners IN GROUPS as the code went through its various versions. Just publishing a draft leads to comments that are not well thought out. Discussion is important to help people appreciate what they have before them. Sometimes group discussions also produce good ideas. I'm skeptical about polling. A mere vote is worthless as information (however useful for making decisions).

20. Is there anything we should have asked but didn't? Anything you want to add to what you have already said?

Ethics codes have a hollow sound when there is no support mechanism for people who want to do what the codes says. Often the problem is not not knowing what's right but what to risk. Over the last three decades, legal entities have done something to protect whistleblowers and other professionals who try to do as they should, but not nearly enough.

ATTACHMENTS (Stephen Unger's records of communications to SEEPP)

From unger@age.cs.columbia.edu Sat Oct 11 17:44:54 1997

Date: Sat, 11 Oct 1997 17:43:25 -0400 (EDT)

From: Stephen Unger <unger@age.cs.columbia.edu>

To: gotterba@Access.ETSU-Tn.Edu

Subject: Comments on Draft Code

Don,

I have reviewed the draft Software Engineering Code of Ethics that you sent me. It is an impressive document, full of interesting, important points, covering a wide range of topics in considerable detail. Your committee clearly decided to go for completeness as opposed to brevity, the opposite of the choice made by the IEEE. (I might mention here that the IEEE Ethics Committee plans to attempt to get the best of both approaches, by developing, over a period of time, an extended set of guidelines for the IEEE code.)

I don't have enough time to give your draft the kind of really careful study that it deserves, so I will simply pass on to you a few brief suggestions that occurred to me as I went over it. Without debating the merits of the comprehensive approach, it seems to me that, with careful editing, this draft could be compressed to a measurable degree without sacrificing any substance. You very possibly have already seen it, but in case you haven't, I am appending a copy of a Swedish code that I found very interesting. I refer to it in my first comment.

Again, let me say that I think you and your committee did a really fine job.

Best regards,

Steve

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1. Altho your item 1.07 is similar, the wording of item 3 of the Swedish code is very nice and perhaps might suggest some adjustment in your statement. It reads: "only take part in projects with the time and resources assigned that make it possible to do a good job."

2. In item 2.06 you say, "Be fair and truthful in all statements...". Consider using a term such as "avoid deception", which not only prohibits falsehoods, but also covers the case of deceiving via not disclosing relevant information, in other words, deception by omission.

3. It ought to be possible to merge items 3.03 and 3.04 in a single statement that would cover offering, soliciting, and accepting bribes.

4. Item 4.01 reading, "Provide service only in areas of their competence." may be a bit too restrictive. There are circumstances where it may be appropriate to accept assignments outside one's area of competence. The important point is to disclose fully one's limitations. (See item 6 of the IEEE code.)

5. While it may be implied by the current wording of 5.03, it might be well to make more explicit a requirement that the professional development of subordinates be given some consideration when giving them work assignments.

6. Item 6.07. "Only accept remuneration appropriate to professional qualifications or experience" may be a good rule to advocate, but I don't think it is appropriate in an ethics code.

7. Item 6.05 reads: "Report anything reasonably believed to be a violation of this code to appropriate authorities." While I am not prepared to generate a big argument about this, it somehow bothers me. A minor point is that, for many parts of the code, there might not be any "appropriate authorities" to report to. Perhaps more basic is a vague distaste with requiring people to "turn in" delinquent colleagues. This is NOT to deny that there are many cases where this is appropriate and necessary, but I wonder if it should be made into a universal rule. Rule 2.01 covers an important subset of such cases. This might be expanded by including, for example situations where other forms of harm to people, such as theft, fraud, or plagiarism is involved.

8. Item 7.03, "Credit fully the work of others." might be expanded by including an item enjoining against taking credit for the work of others. Here, I have in mind the common practice of managers or

professors adding their names as coauthors of papers to which they made no substantial contributions.

9. Item 7.07, "Not interfere in the professional career progression of any colleague." is one that, while very reasonable on its face, and in many situations clearly one that we would like to see enforced, can easily be perverted to serve unethical purposes. There is a history of such provisions in the codes of engineering societies being used to attack conscientious engineers pointing out serious wrongdoing by other engineers that threatened the public safety or welfare. You might refer to my book for examples. (I failed to prevent such a provision from being inserted in the IEEE code.)

10. While Principle 7 includes the words, "treat all those with whom they work fairly", which certainly implies that discrimination on the basis of irrelevant factors is unethical, I believe that, particularly in a comprehensive code, this should be stated explicitly. This is done well, I believe in item 8 of the IEEE code.

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(Swedish Ethical Rules for Computer Professionals)

(a code agreed upon in 1991 by three Swedish trade unions organizing computing personnel ("Etik for datafolk" by SIF, SBmf and FTF; our translation).

Source: Dahlbom, B., and L. Mathiassen, "A Scandinavian View on the ACM's Code of Ethics", Computers and Society June 1994 Vol 24 No 2 p 15

Computer professionals

1. only perform tasks that acknowledge legitimate integrity claims and are in accordance with common understanding of law.
2. only participate in development tasks, the objectives and context of which have been made explicit.
3. only take part in projects with the time and resources assigned that make it possible to do a good job.
4. only develop systems in close collaboration with the user.
5. show respect for, and contribute to the development of, the professional competence of the users.
6. develop systems that use technology in such a way as to satisfy the

interests of the users.

7. develop systems that bring about good work environments.

8. refrain from tasks aiming at control in ways that can be of harm to individuals.

9. keep themselves informed about laws and agreements related to their work and they participate actively in disseminating knowledge about computing activities violating such laws and agreements.

10. only access data required to perform their job.

11. feel responsible for ensuring that computer technology is not used in ways that harm people, the environment, or society.

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Release Form

Software Engineers Code of Ethics Project
Center for the Study of Ethics in the Professions
Illinois Institute of Technology
Chicago, Illinois 60616

Archive

I hereby consent to having the summary of the information I provided in our interview, in the form I approved, put in the "public archive", making it accessible immediately to all researchers and to anyone else with online access.

I understand that I will be identified by name as the interviewee.

Signed Stephen H. Unger Date 1/10/03

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