

From: MANNY NORMAN, SR. SYSTEMS
PROGRAMMER[SMTP:NORMAN_MANNY@ONLINE.EMICH.EDU]
Sent: Wednesday, December 17, 1997 9:28 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Version 4 DONE

Maybe we should all meet across the Detroit river from me - in Ethics
(Essex) county, Ontario!.

I know we're not supposed to be using this listserv for "flippancy", but
I think we have reason to celebrate this time.

Manny.

From: Mechler, Edmund
Sent: Wednesday, December 17, 1997 8:35 AM
To: 'SEEP LIST'
Subject: Version 4 DONE

I never thought e-mail could catch a sigh of relief but the last
few days e-mails was a perfect example.

Isn't it just like a leader to ask what budget when the project
is over and everyone wants to celebrate.

Don, how can there be an ethics meeting in Washington????

Happy Holidays to every one.
Ed

From: PRP1[SMTP:PRP1@AOL.COM]
Sent: Tuesday, December 16, 1997 4:41 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: VERSION 4.DONE

What is this?

PRP1

From: Don Gotterbarn[SMTP:gottarba@ACCESS.ETSU.EDU]
Sent: Tuesday, December 16, 1997 10:51 AM

To: Multiple recipients of list PRFCMP-L
Subject: Re: VERSION 4.DONE

On Tue, 16 Dec 1997, Duncan Langford wrote:

> On Tue, 16 Dec 1997, Simon Rogerson <srog@DMU.AC.UK> wrote:
>
> > How about the Christmas Islands?
>
> Brilliant idea. Now, have we enough left in Don's budget to fund fares &
> accommodation... ;-)

Budget ???? did I miss something?!?!

There is a splendid conference ETHICOMP '98 in Rotterdam in March
The ACM is having an Ethics Conference in Washington in May.
We can have two parties.

don

>
> Season's greetings to all!
>
> - duncan
>

^^
----> Please Update Your Records, again <-----

Don Gotterbarn gotterba@etsu.edu
^^^^
It was "etsu-tn"

Professor, Computer and Information Sciences
East Tennessee State University
Box 70711
Johnson City, TN 37614-0711
USA
(v) (423) 439-6849 (f) (423) 461-7119

From: Duncan Langford[SMTP:D.Langford@UKC.AC.UK]
Sent: Tuesday, December 16, 1997 9:47 AM
To: Multiple recipients of list PRFCMP-L

Subject: Re: VERSION 4.DONE

On Tue, 16 Dec 1997, Simon Rogerson <srog@DMU.AC.UK> wrote:

> How about the Christmas Islands?

Brilliant idea. Now, have we enough left in Don's budget to fund fares & accommodation... ;-)

Season's greetings to all!

- duncan

From: Simon Rogerson[SMTP:srog@DMU.AC.UK]
Sent: Tuesday, December 16, 1997 9:30 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: VERSION 4.DONE

How about the Christmas Islands?

On Tue, 16 Dec 1997, MANNY NORMAN, SR. SYSTEMS PROGRAMMER wrote:

> Thanks, and the season's greetings to all of you. Perhaps, we could
figure
> out some sort of get-together at some mutually acceptable geographical
location
> some
> time in the New Year.
>
> Manny.
>

From: MANNY NORMAN, SR. SYSTEMS
PROGRAMMER[SMTP:NORMAN_MANNY@ONLINE.EMICH.EDU]
Sent: Tuesday, December 16, 1997 8:46 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: VERSION 4.DONE

Thanks, and the season's greetings to all of you. Perhaps, we could figure out some sort of get-together at some mutually acceptable geographical location some time in the New Year.

Manny.

From: Don Gotterbarn[SMTP:gotterba@ACCESS.ETSU.EDU]
Sent: Monday, December 15, 1997 4:46 PM
To: Multiple recipients of list PRFCMP-L
Subject: VERSION 4.DONE

First, I want to thank you all. This has been an exhilarating experience. When projects come to a successful completion there is normally a celebration and everyone shakes hands and is proud of the work accomplished. The problem with E-mail is that many of you only have a virtual persona for me. I hope to meet you all someday in the real-world. Personally, I think you should be extremely proud of the job y have done.

This is it! We have received several comments from the task force on version 4.0; some positive some not so positive, some substantive and some issues of grammatical preference. We have tried to take them all into consideration in the final version which we are forwarding to the task force.

Some suggested lengthy changes which would expand the clauses with a high level of detail can be used in the development of worked examples of the Code (more about that in another later E-mail :-)).

Like any project, at some point we must call the project complete even though we can still think of other improvements. I hope you approve of what has been done.

This is a short E-mail because I have placed the final version on a web page: <http://www-cs.etsu.edu/seeri/secode.htm>

=====
(Note There is a DASH- , not a dot. , between "www" and "cs")

Read the Code one more time and please carefully check the credits at the end of the Code. I want the form of your name and its spelling to be correct and to your liking.

This version is being sent to the IEEE-CS/ACM Joint Steering Committee with the recommendation that this Code be adopted by both societies.

Best regards and THANK YOU!!,
don

ps. Have a good holiday.

***** NEW EMAIL AND TELEPHONE NUMBER *****

*****Please Update Your Records *****

Don Gotterbarn gotterba@etsu.edu 001 (423) 439-6849

+++++ ++++++

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d.gotterbarn@computer.org, dgot@dmu.ac.uk

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Computer and Information Science

Box 70,711

Johnson City, TN 37614-0711, USA

From: Ben Fairweather[SMTP:nbf@dmu.ac.uk]

Sent: Friday, December 12, 1997 8:41 AM

To: Multiple recipients of list PRFCMP-L

Subject: Re: Version 4.0 of the Code

All the comments that follow are, of course, IMHO.

On Mon, 8 Dec 1997, Don Gotterbarn wrote:

> We did not change the substance of the code

I think, having taken a careful look, I would have to disagree.

> What you will find below.

> 1) We modified the Principles so they can stand alone as a reminder of
> the entire code. The short version is listed first.

I CANNOT ACCEPT THIS SHORT VERSION AS IT STANDS. IF IT IS NOT
MODIFIED, I WILL HAVE TO ASK FOR MY NAME TO BE REMOVED.

> 2) We shortened the Preamble but also included issues of maintenance. We
> also tried to clarify that when resolving ethical tension that the
> public interest is paramount.

I think that this was improved by this process.

> 3) We re-ordered the principles, Putting the PUBLIC first where it
> belongs.

I think that was a good move.

- > 4) We re-ordered the clauses within each Principle, in general putting
- > the more aspirational elements first and the more specific practice
- > items later.

I also think that was good, but in the process it becomes more difficult to spot which clauses have been deleted, and some of the ones deleted, I feel, ARE important.

- > 5) We clarified the function of the Code by renaming it.

I am happy with the new name.

- > PLEASE GIVE US YOUR COMMENTS. IT GOES TO THE STEERING COMMITTEE ON
- > MONDAY.

- >
- > SOFTWARE ENGINEERING CODE OF ETHICS AND PROFESSIONAL PRACTICE
- > IEEE-CS/ACM Joint Task Force on Software Engineering Ethics and Professional Practices
- >
- > Short Version (Version 4.0)
- >
- > Software engineers must commit themselves to making the analysis,
- > specification, design, development, testing and maintenance of software
- > a beneficial and respected profession. In accordance with their
- > commitment to the health, safety and welfare of the public, software
- > engineers shall adhere to the following Eight Principles:
- > 1 PUBLIC - Software engineers shall always act in the public interest.
- > 2 CLIENT OR EMPLOYER - Software engineers shall act in the
- > best interests of their client or employer within the confines of the
- > public interest.
- > 3 PRODUCT - Software engineers shall ensure that their products and
- > related modifications are of the highest professional standards possible.
- > 4 JUDGEMENT - Software engineers shall maintain integrity and
- > independence in their professional judgement.
- > 5 MANAGEMENT - Software engineering managers and leaders shall
- > subscribe to and promote an ethical approach to the administration of
- > software development.
- > 6 PROFESSION - Software engineers shall advance the integrity and
- > reputation of the profession within the confines of the public interest.
- > 7 COLLEAGUES - Software engineers shall be fair to and supportive
- > of their colleagues.
- > 8 SELF - Software engineers shall participate in lifelong learning
- > regarding the practice of their profession.

I feel the lack of warning not to treat this short version as a complete code of ethics is a fatal flaw. It would be easy to add a line that it is not the complete code, and is only an 'aide memoire' for the full version, which itself is not intended to be used so that individual parts in isolation could justify errors of omission or commission.

> SOFTWARE ENGINEERING CODE OF ETHICS

> AND PROFESSIONAL PRACTICE

> Full Version (Version 4.0)

> PREAMBLE

OK, as said above.

> PRINCIPLES

>

> Principle 1 PUBLIC Software engineers shall always act in the public
> interest. In particular, software engineers shall, as appropriate:

Improved.

> 1.02. Balance the interests of the software engineer, the employer, the
> client and the users with the public good.

I am not happy with this change. Cf old 2.07. I would prefer "Moderate pursuit of the interests of the software engineer, the employer, the client and the users with pursuit of the public good."

> 1.04. Disclose to appropriate persons or authorities any actual or
> potential danger to the user, the public, or the environment, that
> they reasonably believe to be associated with software or related
> documents.

The deletion of "or merely know about" is detrimental, although the deletion of the word 'merely', itself, is appropriate.

> 1.07. Consider issues of physical disabilities, allocation of resources,
> economic disadvantage and other factors that can diminish
> access to the benefits of software.

Loss of the mentions of language and 'mental access' is detrimental, even if the earlier version was poorly expressed. I prefer:

1.07. Endeavour to produce software that respects diversity. Consider issues including those of language, economic advantage, allocation of

resources, and different abilities (including how to make software usable by people with physical and sensory impairments, learning difficulties, and conditions such as epilepsy).

- > Principle 2 CLIENT OR EMPLOYER Software engineers shall act
- > in the best interests of their client or employer within the confines of the
- > public interest. In particular, software engineers shall, as appropriate:

This has been improved.

- > 2.01. Provide service in their areas of competence, being honest and
- > forthright about any limitations of their experience and
- > education.

An improvement on the old 4.01

- > 2.02. Not knowingly use software that is obtained or retained either
- > illegally or unethically.

An improvement on the old 4.04

- > 2.04. Ensure that any document upon which they rely has been
- > approved, when required, by someone authorized to approve it.

A mild improvement on the old 4.02

- > 2.05. Keep private any confidential information gained in their
- > professional work, where such confidentiality is consistent with
- > the public interest.

A mild improvement on the old 4.05

- > 2.07. Identify, document, and report significant issues of social
- > concern, of which they are aware, in software or related
- > documents to the employer or the client.

A mild improvement on the old 4.06

- > 2.09. Promote no interest adverse to their employer or client, unless a
- > higher ethical concern is being compromised; in that case,
- > inform the employer or another appropriate authority of the
- > ethical concern.

A mild improvement on the old 4.09

- > Principle 3 PRODUCT Software engineers shall ensure that their
- > products and related modifications are of the highest professional
- > standards possible. In particular, software engineers shall, as
- > appropriate:

The removal of detail improves the sentence. However, loss of the mention of products being *acceptable*, to to the employer, the client, the user and the public creates a deficiency with the code: it should have become a clause.

- > 3.01. Strive for high quality, acceptable cost and a reasonable
- > schedule, ensuring significant tradeoffs are clear to the
- > employer, the client, the user and the public.

Making tradeoffs clear is *not* sufficient to compensate for the loss of the call to strive for high quality and acceptable cost for the employer, client, user, and public.

I also wonder if the wording is *accidentally* deficient in the way it implies "employer, the client, the user and the public" only applies to tradeoffs, not to "high quality, acceptable cost and a reasonable schedule". What about re-ordering the clause to "3.01 For each of the employer, client, user and the public: Strive for high quality, acceptable cost and a reasonable schedule, ensuring significant tradeoffs are clear to all parties concerned."

- > 3.04. Ensure that they are qualified, by an appropriate combination of
- > education, planned education, and experience, for any project
- > on which they work or propose to work.

A mild improvement on the old 1.03

- > 3.06. Work to follow industry standards when available that are most
- > appropriate for the task at hand, departing from these only when
- > technically justified.

A mild improvement on the old 1.15

- > 3.08. Ensure that specifications for software on which they work have
- > been well documented, satisfy the users' requirements, and have
- > the appropriate approvals.

A mild improvement on the old 1.01

- > 3.09. Provide realistic estimates of cost, scheduling, personnel, and

- > outcomes on any project on which they work or propose to
- > work and provide a risk assessment of these estimates.

It may not be a given software engineer's responsibility to *provide* the estimates, but it is always the software engineer's responsibility to encourage the provision of realistic estimates. The old 1.07 was better than this replacement. At new 5.05 it only applies to leaders. How about "3.09 When asked for estimates, provide realistic estimates of cost, scheduling, personnel, and outcomes on any project on which they work or propose to work and provide a risk assessment of these estimates. Argue against any unrealistic estimates that the software engineer is aware of."

- > 3.11. Ensure adequate documentation, including significant problems
- > discovered and solutions adopted, for any project on which they
- > work.

An improvement on the old 1.08, however, it would read better if the word 'of' were inserted between 'including' and 'significant'.

- > 3.12. Work to develop software and related documents that respect
- > the privacy of those who will be affected by that software.

An improvement on the old 1.10

- > 3.13. Be careful to use only accurate data derived by ethical and
- > lawful means, and use only in ways properly authorized.

An improvement on the old 1.11

- > 3.14. Maintain the integrity of data being sensitive to outdated or
- > flawed occurrences

An improvement on the old 1.12

- > 3.15 Treat software maintenance with the same professionalism as
- > new development.

I like this.

- > Principle 4 JUDGEMENT Software engineers shall maintain integrity
- > and independence in their professional judgement. In particular,
- > software engineers shall, as appropriate:

Loss of the mention of "protect the reputation of software engineering, provided such protection is consistent with principle 1" is detrimental. I

wonder whether it should be a clause.

- > 4.02 Only endorse documents prepared under their supervision or
- > within their areas of competence and with which they are in
- > agreement.

Good. Covers all of the old 2.03 and the old 3.02, in a better way.

- > 4.04. Do not engage in deceptive financial practices such as bribery,
- > secret payments and double billing.

Improves on the old 3.03, 3.04 and 3.05, BUT the new 4.04 DOES NOT FIT WITH THE SENTENCE STRUCTURE. (perhaps 'do not' could be replaced by 'never?').

- > 4.06. Refuse to participate, as members or advisors, in a governmental
- > or professional body concerned with software related issues, in
- > which they, their employers, or their clients have undisclosed
- > potential conflicts of interest.

This is an improvement but 'conflicts of interest' doesn't seem right to me (can you really have a conflict of interest IN a governmental or professional body?) I would suggest "... undisclosed interests which could bias or appear to bias opinions expressed or actions taken" would be better.

- > Principle 5 MANAGEMENT Software engineering managers and
- > leaders shall subscribe to and promote an ethical approach to the
- > administration of software development. In particular, those managing
- > and leading software engineers shall, as appropriate:

The principle is improved, however, the loss of

- 1) acting fairly (in general) and
- 2) "enable and encourage those who they lead to meet their own and collective obligations, including those under this code"

from the code as a whole is severely detrimental. They could be a new 5.01 and 5.02 (with the following clauses renumbered).

- > 5.01 Ensure good management for any project on which they work,
- > including effective procedures for promotion of quality and
- > reduction of risk.

Rightly moved from old 1.06

- > 5.12. Not punish a software engineer for expressing ethical concerns
- > about a project.

Is a good addition. However, as with the new 5.02, 5.03, 5.06, 5.09, 5.11 (which follow in this email), 5.12 mentions 'software engineer' rather than covering all employees. The clauses replaced mentioned all employees, and in these cases it is appropriate. A software engineer may be leading a team that includes people other than software engineers (for example administrative support). The good software engineer should not punish *any* employee for expressing ethical concerns about a project, or ask any employee to do anything inconsistent with this Code, or attract any potential employee other than by full and accurate description of the conditions of employment, or hold any employee to standards before they are informed of them; etc.

- > 5.02. Ensure that software engineers are informed of standards before
- > being held to them.
- > 5.03. Ensure that software engineers know the employer's policies and
- > procedures for protecting passwords, files, and other
- > confidential information.
- > 5.06. Attract potential software engineers only by full and accurate
- > description of the conditions of employment.
- > 5.09. Ensure that there is a fair agreement concerning ownership of
- > any software, processes, research, writing, or other intellectual
- > property to which a software engineer has contributed.
- > 5.11. Not ask a software engineer to do anything inconsistent with this
- > Code.

- > Principle 6 PROFESSION Software engineers shall advance the
- > integrity and reputation of the profession within the confines of the
- > public interest. In particular, software engineers shall, as appropriate:

Mildly improved.

THE DELETION OF THE OLD 6.07 IS A SERIOUSLY DETRIMENTAL CHANGE
TO THE
SUBSTANCE OF THE CODE.

- > 6.03. Extend software engineering knowledge by appropriate
- > participation in professional organizations, meetings and
- > publications.

An improvement on the old 6.13

- > 6.04. Support, as members of a profession, other software engineers
- > striving to follow this Code.

An improvement on the old 6.04

- > 6.06. Obey all laws governing their work, unless, in exceptional
- > circumstances, such compliance is inconsistent with the public
- > interest.

Change from old 6.10 is OK

- > 6.10. Avoid associations with disreputable businesses and
- > organizations.

Change from old 6.01 is OK

- > 6.11. Consider, as a profession, that violations of this Code are
- > inconsistent with being a professional software engineer.

I do not see how individuals can consider 'as a profession'. Those words should be deleted.

- > 6.12. Express concerns to the people involved when significant
- > violations of this Code are detected.

The words "unless this is impossible, dangerous or ineffective" should be added at the end of this clause in addition to having been added to the following one.

- > 6.13. Report significant violations of this Code to appropriate
- > authorities when consultation about the problems has proven
- > impossible, dangerous or ineffective.

- > Principle 7 COLLEAGUES Software engineers shall be fair to and
- > supportive of their colleagues. In particular, software engineers shall, as
- > appropriate:

A slight improvement.

- > 7.02. Credit fully the work of others and refrain from taking undue
- > credit.

An improvement on the old 7.03

- > 7.06. Not unfairly intervene in the career of any colleague; however,
- > concern for the employer, the client or public interest may
- > compel software engineers, in good faith, to question the competence
- > of a colleague.

A big improvement on the old 7.07 and 7.08

- > Principle 8 SELF Software engineers shall participate in lifelong
- > learning regarding the practice of their profession. In particular,
- > software engineers shall continually endeavor to:

Slightly worse than the previous version.

- > 8.01. Further their knowledge of developments in the analysis,
- > specification, design, development, maintenance and testing of
- > software and related documents, together with the management
- > of the development process.

Improved.

- > 8.07. Not influence others to undertake any action which involves a
- > breach of this Code.

Improved.

- > 8.08. Encourage colleagues to adhere to this Code.

This doesn't appear to me to be suitable for the 'self' principle.

The old 8.08. "Consider violations of this code inconsistent with being a professional software engineer and encourage colleagues to adhere to this code." should be retained, but clarity would be improved by the insertion of the word 'personal' after 'consider'. The new 6.11 does not cover this PERSONAL aspect.

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The Gateway, LEICESTER, LE1 9BH, UK | www.ccsr.cms.dmu.ac.uk/

From: Don Gotterbarn[SMTP:gotterba@ACCESS.ETSU.EDU]
Sent: Monday, December 08, 1997 10:46 AM
To: Multiple recipients of list PRFCMP-L
Subject: Version 4.0 of the Code

Thanks for sending your comments on the Code. As you know, we have received considerable comment on the Code. Many of the suggestions were quite helpful. Below is the result of several emails and a three day meeting by the executive committee.

We need to send the FINAL COPY OF THE CODE BY MONDAY DECEMBER 15. PLEASE give this one more review. We did not change the substance of the code, but we did clear up several things and restructure it.

What you will find below.

- 1) We modified the Principles so they can stand alone as a reminder of the entire code. The short version is listed first.
- 2) We shortened the Preamble but also included issues of maintenance. We also tried to clarify that when resolving ethical tension that the public interest is paramount.
- 3) We re-ordered the principles, Putting the PUBLIC first where it belongs.
- 4) We re-ordered the clauses within each Principle, in general putting the more aspirational elements first and the more specific practice items later.
- 5) We clarified the function of the Code by renaming it.

PLEASE GIVE US YOUR COMMENTS. IT GOES TO THE STEERING COMMITTEE ON MONDAY. It has been a long road, but I think you should all be proud of this.

best regards,
don

===== Here they are =====

SOFTWARE ENGINEERING CODE OF ETHICS

AND PROFESSIONAL PRACTICE

IEEE-CS/ACM Joint Task Force on Software Engineering Ethics and Professional Practices

Short Version (Version 4.0)

Software engineers must commit themselves to making the analysis, specification, design, development, testing and maintenance of software a beneficial and respected profession. In accordance with their commitment to the health, safety and welfare of the public, software engineers shall adhere to the following Eight Principles:

1 PUBLIC - Software engineers shall always act in the public interest.

2 CLIENT OR EMPLOYER - Software engineers shall act in the best interests of their client or employer within the confines of the public interest.

3 PRODUCT - Software engineers shall ensure that their products and related modifications are of the highest professional standards possible.

4 JUDGEMENT - Software engineers shall maintain integrity and independence in their professional judgement.

5 MANAGEMENT - Software engineering managers and leaders shall subscribe to and promote an ethical approach to the administration of software development.

6 PROFESSION - Software engineers shall advance the integrity and reputation of the profession within the confines of the public interest.

7 COLLEAGUES - Software engineers shall be fair to and supportive of their colleagues.

8 SELF - Software engineers shall participate in lifelong learning regarding the practice of their profession.

SOFTWARE ENGINEERING CODE OF ETHICS

AND PROFESSIONAL PRACTICE

IEEE-CS/ACM Joint Task Force on Software Engineering Ethics and Professional Practices

Full Version (Version 4.0)

PREAMBLE

Computers have a central and growing role in commerce, industry, government, medicine, education, entertainment and society at large. Those who contribute, by direct participation or by teaching, to the analysis, specification, design, development, maintenance and testing of software systems have significant opportunities both to do good or to cause harm, and to influence and enable others to do good or cause harm. To ensure, as much as possible, that this power will be used for good, software engineers must commit themselves to making software engineering a beneficial and respected profession. In accordance with that commitment, software engineers shall adhere to the following Code of Ethics and Professional Practice.

The Code contains eight Principles related to the behavior of and decisions made by professional software engineers, including practitioners, educators, managers, supervisors and policy makers, as well as trainees and students of the profession. The Principles identify the ethically responsible relationships in which individuals, groups, and organizations participate and the primary obligations within these relationships. The Clauses of each Principle are illustrations of some of the obligations included in these relationships. These obligations are founded in the software engineers' humanity, special care owed to people affected by their work, and the unique elements of the practice of software engineering. The Code prescribes these as obligations of anyone claiming to be or aspiring to be a software engineer.

It is not intended that the individual parts of the Code be used in isolation to justify errors of omission or commission. The list of Principles and Clauses is not exhaustive, and should not be read as separating the acceptable from the unacceptable in professional conduct in all practical situations. The Code is not a simple ethical algorithm which generates ethical decisions. In some situations standards may be in tension with each other or with standards from other sources. These situations require the software engineer to use ethical judgement to act in a manner which is most consistent with the spirit of the Code of Ethics and Professional Practice, given the circumstances.

Ethical tensions can best be addressed by thoughtful consideration of fundamental principles, rather than blind reliance on detailed regulations. These Principles should influence software engineers to consider broadly who is affected by their work; to examine if they and their colleagues are treating other human beings with due respect; to speculate on how the public, if reasonably well informed, would view their decisions; to analyze how the least empowered will be affected by their decisions; and to consider whether their acts would be judged worthy of the ideal professional working as a software engineer. In all

these judgements concerns for the health, safety and welfare of the public is the primary concern. That is the "Public Interest" is central to this Code.

The dynamic and demanding context of software engineering requires a code that is adaptable and relevant to new situations as they occur. However, even in this generality, the Code provides support for the software engineer and managers of software engineers who needs to take positive action in a specific case by documenting the ethical stance of the profession. The Code provides an ethical foundation to which individuals within teams and the team as a whole can appeal. The Code helps to define those actions which are ethically improper to request of a software engineer or teams of software engineers.

The Code is not simply for adjudicating the nature of questionable acts; it also has an important educational function. Since it expresses the consensus of the profession on ethical issues, it is as means to educate both the public and aspiring professionals about the ethical obligations of all software engineers.

PRINCIPLES

Principle 1 PUBLIC Software engineers shall always act in the public interest. In particular, software engineers shall, as appropriate:

- 1.01. Accept full responsibility for their own work.
- 1.02. Balance the interests of the software engineer, the employer, the client and the users with the public good.
- 1.03. Approve software only if they have a well-founded belief that it is safe, meets specifications, has passed appropriate tests, and does not diminish quality of life or harm the environment.
- 1.04. Disclose to appropriate persons or authorities any actual or potential danger to the user, the public, or the environment, that they reasonably believe to be associated with software or related documents.
- 1.05. Co-operate in efforts to address matters of grave public concern caused by software or related documents.
- 1.06. Be fair and avoid deception in all statements, particularly public ones, concerning software or related documents.
- 1.07. Consider issues of physical disabilities, allocation of resources, economic disadvantage and other factors that can diminish access to the benefits of software.
- 1.08. Volunteer professional skills to good causes and contribute to public education concerning the discipline.

Principle 2 CLIENT OR EMPLOYER Software engineers shall act in the best interests of their client or employer within the confines of the public interest. In particular, software engineers shall, as appropriate:

- 2.01. Provide service in their areas of competence, being honest and forthright about any limitations of their experience and education.
- 2.02. Not knowingly use software that is obtained or retained either illegally or unethically.
- 2.03. Use the property of a client or employer only in ways properly authorized, and with the client's or employer's knowledge and consent.
- 2.04. Ensure that any document upon which they rely has been approved, when required, by someone authorized to approve it.
- 2.05. Keep private any confidential information gained in their professional work, where such confidentiality is consistent with the public interest.
- 2.06. Identify, document, and report to the client or the employer promptly if, in their opinion, a project is likely to fail, to prove too expensive, to violate intellectual property legislation, or otherwise be problematic.
- 2.07. Identify, document, and report significant issues of social concern, of which they are aware, in software or related documents to the employer or the client.
- 2.08. Accept no outside work detrimental to the work they perform for their primary employer.
- 2.09. Promote no interest adverse to their employer or client, unless a higher ethical concern is being compromised; in that case, inform the employer or another appropriate authority of the ethical concern.

Principle 3 PRODUCT Software engineers shall ensure that their products and related modifications are of the highest professional standards possible. In particular, software engineers shall, as appropriate:

- 3.01. Strive for high quality, acceptable cost and a reasonable schedule, ensuring significant tradeoffs are clear to the employer, the client, the user and the public.
- 3.02. Ensure proper and achievable goals and objectives for any project on which they work or propose.
- 3.03. Work to identify, define and address ethical, economic, cultural,

- legal, and environmental issues related to work projects.
- 3.04. Ensure that they are qualified, by an appropriate combination of education, planned education, and experience, for any project on which they work or propose to work.
 - 3.05. Ensure an appropriate methodology for any project on which they work or propose to work.
 - 3.06. Work to follow industry standards when available that are most appropriate for the task at hand, departing from these only when technically justified.
 - 3.07. Strive to fully understand the specifications for software on which they work.
 - 3.08. Ensure that specifications for software on which they work have been well documented, satisfy the users' requirements, and have the appropriate approvals.
 - 3.09. Provide realistic estimates of cost, scheduling, personnel, and outcomes on any project on which they work or propose to work and provide a risk assessment of these estimates.
 - 3.10. Ensure adequate testing, debugging, and review of software and related documents on which they work.
 - 3.11. Ensure adequate documentation, including significant problems discovered and solutions adopted, for any project on which they work.
 - 3.12. Work to develop software and related documents that respect the privacy of those who will be affected by that software.
 - 3.13. Be careful to use only accurate data derived by ethical and lawful means, and use only in ways properly authorized.
 - 3.14. Maintain the integrity of data being sensitive to outdated or flawed occurrences
 - 3.15. Treat software maintenance with the same professionalism as new development.

Principle 4 JUDGEMENT Software engineers shall maintain integrity and independence in their professional judgement. In particular, software engineers shall, as appropriate:

- 4.01. Temper all technical judgements by the need to support and maintain human values.
- 4.02. Only endorse documents prepared under their supervision or within their areas of competence and with which they are in agreement.
- 4.03. Maintain professional objectivity with respect to any software or related documents they are asked to evaluate.
- 4.04. Do not engage in deceptive financial practices such as bribery, secret payments and double billing.
- 4.05. Disclose to all concerned parties those conflicts of interest that

cannot reasonably be avoided or escaped, and aspire to resolve them.

- 4.06. Refuse to participate, as members or advisors, in a governmental or professional body concerned with software related issues, in which they, their employers, or their clients have undisclosed potential conflicts of interest.

Principle 5 MANAGEMENT Software engineering managers and leaders shall subscribe to and promote an ethical approach to the administration of software development. In particular, those managing and leading software engineers shall, as appropriate:

- 5.01. Ensure good management for any project on which they work, including effective procedures for promotion of quality and reduction of risk.
- 5.02. Ensure that software engineers are informed of standards before being held to them.
- 5.03. Ensure that software engineers know the employer's policies and procedures for protecting passwords, files, and other confidential information.
- 5.04. Assign work only after taking into account appropriate contributions of education and experience tempered with a desire to further that education and experience.
- 5.05. Ensure realistic estimates of cost, scheduling, personnel, and outcome on any project on which they work or propose to work, and provide a risk assessment of these estimates.
- 5.06. Attract potential software engineers only by full and accurate description of the conditions of employment.
- 5.07. Offer fair and just remuneration.
- 5.08. Not unjustly prevent someone from taking a better position for which that person is suitably qualified.
- 5.09. Ensure that there is a fair agreement concerning ownership of any software, processes, research, writing, or other intellectual property to which a software engineer has contributed.
- 5.10. Provide for due process in hearing charges of violation of an employer's policy or of this Code.
- 5.11. Not ask a software engineer to do anything inconsistent with this Code.
- 5.12. Not punish a software engineer for expressing ethical concerns about a project.

Principle 6 PROFESSION Software engineers shall advance the integrity and reputation of the profession within the confines of the public interest. In particular, software engineers shall, as appropriate:

- 6.01. Help develop an organizational environment favorable to acting ethically.
- 6.02. Promote public knowledge of software engineering.
- 6.03. Extend software engineering knowledge by appropriate participation in professional organizations, meetings and publications.
- 6.04. Support, as members of a profession, other software engineers striving to follow this Code.
- 6.05. Not promote their own interest at the expense of the profession.
- 6.06. Obey all laws governing their work, unless, in exceptional circumstances, such compliance is inconsistent with the public interest.
- 6.07. Be accurate in stating the characteristics of software on which they work, avoiding not only false claims but also claims that might reasonably be supposed to be deceptive, misleading, or doubtful.
- 6.08. Take responsibility for detecting, correcting, and reporting errors in software and associated documents on which they work.
- 6.09. Ensure that clients, employers, and supervisors know of the software engineer's commitment to this Code of ethics, and the subsequent ramifications.
- 6.10. Avoid associations with disreputable businesses and organizations.
- 6.11. Consider, as a profession, that violations of this Code are inconsistent with being a professional software engineer.
- 6.12. Express concerns to the people involved when significant violations of this Code are detected.
- 6.13. Report significant violations of this Code to appropriate authorities when consultation about the problems has proven impossible, dangerous or ineffective.

Principle 7 COLLEAGUES Software engineers shall be fair to and supportive of their colleagues. In particular, software engineers shall, as appropriate:

- 7.01. Assist colleagues in professional development.
- 7.02. Credit fully the work of others and refrain from taking undue credit.
- 7.03. Review the work of others in an objective, candid, and properly-documented way.
- 7.04. Give a fair hearing to the opinion, concern, or complaint of a colleague.
- 7.05. Assist colleagues in being fully aware of current standard work practices including policies and procedures for protecting

passwords, files, security measures in general, and other confidential information.

- 7.06. Not unfairly intervene in the career of any colleague; however, concern for the employer, the client or public interest may compel software engineers, in good faith, to question the competence of a colleague.
- 7.07. In situations outside of their own areas of competence, call upon the opinions of other professionals who have competence in that area.

Principle 8 SELF Software engineers shall participate in lifelong learning regarding the practice of their profession. In particular, software engineers shall continually endeavor to:

- 8.01. Further their knowledge of developments in the analysis, specification, design, development, maintenance and testing of software and related documents, together with the management of the development process.
- 8.02. Improve their ability to create safe, reliable, and useful quality software at reasonable cost and within a reasonable time.
- 8.03. Improve their ability to produce accurate, informative, and literate documentation.
- 8.04. Improve their understanding of the software and related documents on which they work and of the environment in which they will be used.
- 8.05. Improve their knowledge of the law governing the software and related documents on which they work.
- 8.06. Improve their knowledge of this Code, its interpretation, and its application to their work.
- 8.07. Not influence others to undertake any action which involves a breach of this Code.
- 8.08. Encourage colleagues to adhere to this Code.

This Code was developed by the IEEE-CS/ACM joint task force on Software Engineering Ethics and Professional Practices:

Chair: Donald Gotterbarn;

Executive Committee: Keith Miller and Simon Rogerson;

Members: Steve Barber, Peter Barnes, Ilene Burnstein, Michael Davis, Amr El-Kadi, N. Ben Fairweather, Milton Fulghum, N. Jayaram, Tom Jewett, Mark Kanko, Ernie Kallman, Duncan Langford, Joyce Currie Little, Ed Mechler, Manuel J. Norman, Douglas Phillips, Peter Ron

Prinzivalli, Patrick Sullivan, John Weckert, Vivian Weil, S. Weisband
and Laurie Honour Werth.

^^

----> Please Update Your Records, again <-----

Don Gotterbarn gotterba@etsu.edu

^^^^

It was "etsu-tn"

Professor, Computer and Information Sciences
East Tennessee State University
Box 70711
Johnson City, TN 37614-0711
USA
(v) (423) 439-6849 (f) (423) 461-7119

From: Don Gotterbarn[SMTP:gotterba@Access.ETSU.Edu]
Sent: Friday, November 21, 1997 11:17 AM
To: Multiple recipients of list PRFCMP-L
Subject: Code Revision pt2

Ed and every body else:

Ed's last question to me indicates that my request to you all may not
have been clear, so I am broadcasting my reply :-(

The last email I sent you was VERY large. Let me briefly try to
clarify its requests.

Please:

- 1) Get responses from industry folk and have them identify themselves as such.
- 2) Read the comments on the clauses. Every clause did not receive a comment.
- 3) ONLY for those comments you consider on the mark, and which REQUIRE some change in the clause. Please
 - a) indicate how you agree with the comment and
 - b) suggest some re-phrasing to meet the need identified in a)

4) Look over the Principles to see if we can make SLIGHT modifications to them which incorporate some of the points from the clauses under those particular principles. This is an exploration to see if the Principles could stand alone and convey the sense of the Code. (Personal goal- if we could do this then we could both keep the Code as a whole--Principles and Clauses and print the Principles on the back of a society's membership card! :-))

5) NEW Please be careful not to Broadcast letters that are intended for an individual. People sometimes get upset at this and ask to be removed from lists.

Enjoy your reading!!

We are in home stretch and the results so far are very positive !!

Don

^^

)))))) New Email and Phone Number (((((((
----> Please Update Your Records <-----

Don Gotterbarn gotterba@etsu.edu 001 (423) 439-6849
^^

Professor, Computer and Information Sciences
East Tennessee State University
Box 70711
Johnson City, TN 37614-0711
USA
Fax 001 (423) 461-7119

From: Mechler, Edmund
Sent: Friday, November 21, 1997 10:19 AM
To: Multiple recipients of list PRFCMP-L
Subject: Code Revision

Don
I have not read all of the attached comments yet,
but fail to see with such a high rating for the
present form why change it now? We would have
to get all the reviews again. Why not just work on
the Principles that received the negative responses?
Ed

From: Mechler, Edmund
Sent: Friday, November 21, 1997 9:05 AM
To: 'Tom Jewett'
Cc: 'MANNY NORMAN, SR. SYSTEMS PROGRAMMER'; 'Don Gotterbarn'
Subject: RE: test

Sorry we inadvertently hit the reply and slowed down the large amount of traffic on the list. I was sending a test over and over because my e-mail kept coming back. At least one person said he got the test.

Ed

From: Tom Jewett[SMTP:jewett@engr.csulb.edu]
Sent: Friday, November 21, 1997 12:42 AM
To: Mechler, Edmund; MANNY NORMAN, SR. SYSTEMS PROGRAMMER
Cc: Don Gotterbarn
Subject: Re: test

Manny/Ed,

Forgive me, but I really have to second Don's comment:

"PS. PLEASE DO NOT USE THE LIST ADDRESS FOR PERSONAL CORRESPONDENCE !!!!"

This is a large listserv, and as much as I'd like to meet everyone on it and be able to visit electronically, my inbox overfloweth even without multiple copies of test messages and personal comments that aren't meant for me.

(Please note that this one is NOT going to the listserv.)

Thanks,

Tom

Tom Jewett, Editor
ACM Computers and Society

>Date: Thu, 20 Nov 1997 13:43:35 -0500
>Reply-To: Professional Competence Standards Task Force
> <PRFCMP-L@UTKVM1.UTK.EDU>
>Sender: Professional Competence Standards Task Force

> <PRFCMP-L@UTKVM1.UTK.EDU>
>From: Ed Mechler <EMechler@ERI.EQT.COM>
>Subject: Re: test
>To: Multiple recipients of list PRFCMP-L <PRFCMP-L@UTKVM1.UTK.EDU>
>
>First it was a test of the site; I think it was down
>this morning.
>Second, you must be on the site twice if you get
>more than one; I sent it to the site only.
>How have you been? Haven't heard from you for a
>while.
>ED
>
>>-----
>>From: MANNY NORMAN, SR. SYSTEMS
>>PROGRAMMER[SMTP:NORMAN_MANNY@ONLINE.EMICH.EDU]
>>Sent: Thursday, November 20, 1997 11:56 AM
>>To: Multiple recipients of list PRFCMP-L
>>Subject: Re: test
>>
>> In case you want to know - test received!
>>
>> Manny.
>>
>
>

From: Mark Kanko[SMTP:mkanko@AFIT.AF.MIL]
Sent: Friday, November 21, 1997 6:11 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: test

Someone please remove me from this mail group.

Thank you.

=====

===

Major Mark A. Kanko | Comm: 937-255-3636 ext 4557
Assist. Dean for Academic Affairs | DSN: 785-3636 ext 4557
Graduate School of Engineering | Fax: 937-656-7302
Air Force Institute of Technology |
<http://www.afit.af.mil/Schools/EN>

From: Don Gotterbarn[SMTP:gotterba@ACCESS.ETSU.EDU]
Sent: Thursday, November 20, 1997 5:09 PM
To: Multiple recipients of list PRFCMP-L
Subject: Need to revisit the Code (fwd)

Hi Team,

As I was about to send this message I received Ed's email about Industry input. We have been asked to get responses from industry about the Code. I have contacted some multi-nationals, Lockheed Martin, TRW etc and we are getting statements from them. If you get a CEO to respond then please have them indicate that they are a CEO on their survey form. I think the steering committee's intent is to specifically identify the industry view. If the CEO does not indicate their CEOness on the ballot, then their views are lost in the collection of all the other votes.

ITS TIME TO GET BACK TO WORK :-)

I have been getting responses from materials in the two magazines and on the web. Some of the responses are useful and others are not so useful. My sharing them with you does not indicate support of the assertions and claims made by the Here is the information as of November 19. I have attached a text document containing written comments received on version 3.

The votes are in general very positive. Most are in the 90-100% approval range. Principles which received the highest negative votes- 20-25 % opposed- were:

- 1.12, - I think the issue is the SE cannot just delete data
- 2.05, - this is just a hunch- in the ballot the phrase " respects diversity" is, in the US, a politically loaded phrase -This is evident by one two page critique of this clause.
- 6.03, Many uncertain votes(rather than oppose) put this in the 75% range-no sure what the problem is.
- 6.07, There is a problem with this, we might just drop it.
- 7.02, No idea what is wrong.
- 7.08, We need to make clear that this does not rule out appropriate competition. We thought the word "undermine" would carry that weight.

There were some common themes that I think we need to address.

*SIZE

One of the common complaints is the size of the code. Following the ACM model. I suggest that we take the Eight keyword Principles and expand then by a word or three so that they could stand on their own . Then we can attach the clauses under each principle as "explanatory details" "guidelines" "specifications :-)"- we need a good word here. The idea would be to be able to print the code in a short version, when necessary and it would still carry the sense of the whole document.

Everyone-

---- WE NEED TO WORK ON THAT NOW - MODIFICATIONS OF THE 8 PRINCIPLES.

*TITLE-

Ethics folks only want to see ethics principles and some SEs thought there was too much detail. Our original charge was to develop standards of ethics and professional practices- that is what we did so why not call the document: Code of Software Engineering Ethics and Professional Practices.

TESTING VERSUS GOOD DESIGN

Where are there places where we might balance out the emphasis on good testing with elements of quality design? We should be able to add a word or two to a clauses and add this element.

THE WHOLE CODE-

Please read through the comments (included as part of this document in text format) and if you agree with any of them then please suggest how we might modify the Code to meet the objections.

Some of the comments may seem ludicrous to you and unworthy of comment. Let us just focus on those comments that your feel indicate a needed modification of the Code to produce a better Code , i.e., a clear useful document expressing the ethical standard and practices of a discipline aspiring to be a profession.

Given the percentage of approval we ought to feel quite good !!!!!!! We may have identified the standards of the profession. My favorite feel good comment on the Code is

" My initial reaction was "major overkill", but I was wrong. I like it! I might even call myself a software

engineer!"

I look forward top hearing from you all.

Best regards,

don

PS. PLEASE DO NOT USE THE LIST ADDRESS FOR PERSONAL
CORRESPONDENCE !!!!

HERE THEY ARE :

Revised: Nov 18 1997

Comments received.

This contains the comments received so far. Comments relating to specific clauses are grouped with those clauses below. General comments about the code precede the Code clause comments. Each comment is followed by a sequence number which traces to the document received and an , an A(acm) or I(ieee) when it could be determined what survey they were responding to.

=====
=====.

General Comments:

I generally favor Version 3 of Software Code of Ethics as published in the October 1997 issue of Computer Magazine. [3i]

This looks like a great effort and I wish you well. [14i]

My initial reaction was "major overkill", but I was wrong. I like it! I might even call myself a software engineer![38a]

Three levels

You identify three levels clearly, but why are three paragraphs in the preamble devoted to it? The clauses are not, as far as I can tell, labeled as corresponding to a particular level. Is the professional supposed to

decide whether what level a clause is, then be more insistent (demand) or less insistent (aspire) about doing it? (The verbage in level three includes "aspirational," so makes it harder to decide how clauses should be classified.) Since this is e-mail rather than a conversation and I may not have communicated clearly, let me restate. Devoting three paragraphs to levels tells me it is important to understand and apply the concepts, but I really can't see how to classify clauses or how I should view or behavior differently with regard to, say, a level three vs. a level one clause. [42a]

I agree with Leonard that these principles look very familiar. But I think it is very good integration of all ethics principles. My trouble in reading this and understanding it completely is primarily due to the so-called three-level classification of clauses: Aspire, Expect, and Demand. I cannot tell (with ease) which is which. For example, 3.03. Reject bribery. Is it "Aspire" (to be human??) or Expect (to be professional) or Demand (good practice)? Not sure if all human "like" to reject bribery by the very human nature. We were "taught" through our education not to take bribery in this society. It would be a good service to us (educators) to label each clause one of the three levels if our dear authors can sort them out clearly. There are still some typos I guess. Otherwise I am excited about seeing and would love to use it in my course. [5i]

Code title

If reviewing this draft document, the following should be borne in mind:

- (1) Principles 2-9 are largely derived from existing Code of Ethics from other engineering disciplines.
- (2) We should ensure Principle 1 in particular and the other principles as necessary are restricted to ethical issues. Those that are primarily technical in nature should be eliminated.

DG. This is contrary to the committee interest in professional practices Should we relabel the Code to include the word "Conduct" or "Practice" e.g. "Software Engineering Code of Ethics and Professional Practice"??

SIZE

I suggest you set a goal of reducing the code size to 40% of the draft size! Many of these are not ethical issues and should be deleted. Just because someone thinks its a good idea does not make it an appropriate item for a code of ethics. [22i]

Too long, too wordy. Can't be written on the back of an envelope. [18i]

I have no quarrel with the instant of the proposed Code of Ethics or the specific line items. Obviously a lot of thought has gone into it.

My comment is that it is so volumous and specific that it loses all its impact. If the Constitution and Bill of Rights were written like this they would fill 500 pages each and there would be 882 rights specifically delineated.

I would suggest that after the group reaches a consensus on the individual line items you give it to a writer and ask him/her to reduce it to a single page which summarizes each of the keyword principles in one or two sentences. All the line items should then be put in an appendix. [17i]

I think it was Lao Tzu who said: "Where the filial son is highly regarded, the family is in danger. Where the loyal minister is regarded highly, the state is in danger." It seems to me that any profession that needs an ethics code on paper with a whopping 82 clauses of blantant obviousness, is in serious danger.[27a]

The root of my difficulty is, I think, a philosophical one. I believe very strongly that codes like this have to focus on the "spirit of the law", and not on the "letter of the law", in order to be effective. This code has chosen to focus largely on the letter of the law. One result is that it is five to ten times longer than it could be. People will be unable and/or unwilling to read it, remember it, and apply it. It reduces ethical principles to legalistic rules and seems thereby to drain the ethical juice right out of the concepts. These are not words that elevate the soul. As I went through the numbered sentences, I found some that I violate frequently though I consider that I act ethically; some whose recommendations I would consider unethical; some that are so morally neutral that I wonder what they are doing in an ethics document; some that are inconsistent with other

sentences; some that appear to have huge loopholes; some that are ambiguous; and some that I just plain cannot understand the interpretation or intent of. By the time I was halfway through I could often no longer tell whether I agreed or disagreed ethically with any particular numbered sentence. Somewhere this Code went badly off the tracks. I would much prefer to see a number of short, pithy, and inspiring statements of principle; plus perhaps one short "in particular" sentence per principle. Nothing further. Find one person with a keen sense of ethics and a winning prose style and ask them to write the Code. I would take as a goal that the entire Code should be able to be typed comfortably on a single sheet of paper. About 200 to 400 words. I'm sorry to have been so negative, but I'm afraid that is my reaction. It's not a Code of Ethics that I could apply in my professional life. [41a]

Make it an SE Code

There are many related practices (such as hiring practices) that impact our profession. But these are not unique to our profession. Focus more on things unique to software engineering. [19i]

My suggestion is to reduce the list of dozens, down to 7 + or - 2. Focus on things like treatment of shareware and association with virus' that are very critical to the world's impression of our profession. While communicating with our customers and developing good process is very important, it is too vague to be useful. Besides we have other sources for this input (like SEI). [19i]

This code is very thorough, but it seems to focus on testing to remove software defects rather than designing and building software without defects (quality assurance). I would like to see an appropriate balance of software quality assurance testing within this code.[16a]

Ethics is poop

Your code has delusion of scope of authority, that far exceeds normal work environment. Much calls for

subjective judgement and how will code be administered. I don't want more bureaucracy.

Recommendation remove all instances of PC, goody goody , and self contradictions any statements that cause outrage in a segment of one professor is counter-productive. [15a]

There is significantly too much "feel good", "save the environment", "put everyone else before yourself" in this code. I do not agree with this code of "ethics" as written. It needs to focus on providing competent engineers with guidelines, not maximums. I am interested in how this code is voted on by the members of the ACM so if it is not fixed, I can vote against it. [43a]

What is the current status of the Software Engineering Body of Knowledge? Is the Body of Knowledge for real-time and life critical domain systems complete? Is the Body of Knowledge findings for real-time and life critical domain systems ready for transfer to educational program development? [12a]

general

I dislike, in general, self-reference in a code of ethics and would rather see 5.09,6.02,6.03,8.06,and 8.08 go away; but I don't feel that these are "killer issues" Other "uncertain" votes mostly mean that I found the wording rather empty or unenforceable. [28a]

My initial reaction was "major overkill", but I was wrong. I like it! I might even call myself a software engineer![38a]

1. Products

Principle 1: PRODUCT. Software engineers shall, insofar as possible, ensure that the software on which they work is useful and of acceptable quality to the public, the employer, the client, and the user; completed on time and at reasonable cost; and free of error. In

particular, software engineers shall, as appropriate:

I'd add an additional clause:

* Refuse to work for or approve projects where the working conditions under which the project was produced are, in the engineer's opinion, likely to lead to unacceptably high risks to the public or the client's safe and effective use of the software.[40a]

I am not clear on the differences between these four groups. Perhaps a simple scenario would be helpful as a footnote or in the preamble. The employer pays for and directs your work. The client commissions the work. The user uses the work. The public are those not directly involved. Suppose a bank hires the software firm you work for to develop a program for tellers. The bank is the client. The software firm is the employer. A teller is a user (or is the person seeing the teller a user, too?). The public includes the person doing banking with the teller, accountants, competitors, and the rest of humanity. Defining and using terms consistently is an important part of a code. Otherwise, how can we talk about the same thing? [42a]

1.01. Ensure that specifications for software on which they work have been well documented, satisfy the user's requirements, and have the client's approval.

1.01

This specifies a process-1.02 covers it better.[13a]

1.01 and 1.02

The very best software always has this in common: it seems to "understand" the expectations and abilities of the end user [34a]

1.02. Strive to fully understand the specifications for software on which they work.

1.02

Sometimes a good maintenance programmer can muddle through in responsible manner without having "full"

understanding of software specs. [28a]

1.03. Ensure that they are qualified, by an appropriate combination of education and experience, for any project on which they work or propose to work.
1.03

Students may not be fully qualified [13a]

for many projects, employers must educate employees on the project because information isn't widely available. Not sure of exact syntax but it should note that on-the-job-training or employer- provided education is one way of meeting this requirement. [40a]

We all expect to do some learning on at least some jobs. How about "Ensure that they are not unqualified..." or "adequately qualified"? Was the developer of the Therac-25 software unqualified or just did a poor job? Can we expect software engineers to know their limitations with respect to the state of the art in all areas? If someone approached me to write an accounting package, I'd probably feel comfortable accepting as long as I inform them that I needed specifications to include proper accounting practices and audits since I have little training or experience in that area.

A side comment: some clauses, such as 1.01 and 1.02, refer to "software on which they work" while other clauses, such as 1.03 and 1.04, refer to "project on which they work." If there is little or no distinction, the code should only use one term consistently. If there is a distinction, perhaps it could be mentioned. (It looks like I'm suggesting a glossary of sorts.) [42a]

1.04. Ensure proper and achievable goals and objectives for any project on which they work or propose.
1.04 thru 1.09

Items 1.04 thru 1.09 are legitimate things to go into a code of ethics, but they're in the wrong place. They all pertain to management or project management, not to the person working on the project.

As a software engineer, programmer, or whatever, I can't control whether the goals are proper and

achievable, etc. What I can, and should do, is discuss it with my management and project management to make sure they know my concerns. It's up to them to explain to me why I'm wrong, to make the necessary fixes to the project, or to ignore me. I can try to convince them, but it's their decision. Given the reality of being employed, rather than being self-employed, that's about the limit, unless I perceive it as something worth losing my job over. [11i]

1.04 thru 1.08

Too vague for members of team; ok for (?) only. [21a]

1.05. Ensure an appropriate methodology for any project on which they work or propose to work.

1.05&1.06

These are generally management concerns over which the working S.E. may have little control. Better words might be educated, propose, inform management if these are not followed. [9i]

1.05: add: except with the knowledge and consent of all parties.[27a]

In doing really innovative, leading edge work, "methodology" may yet need to be invented]

With the general lack of widely accepted methodologies, I would feel more comfortable with "adequate." [42a]

1.06. Ensure good management for any project on which they work, including effective procedures for promotion of quality and reduction of risk

1.06

I am in favor of supporting good management, but uncertain also supporting this wording. Beginning software engineers work under existing management; it seems presumptuous to assume that they can realistically expect, cause, or require good management in every project they work on. I would support this if re-worded to say any project they manage or participate in the management. [2i]

One area many "new" software engineers tend to ignore, or not think about is proper Configuration Management (this includes software and documentation). It is essential part of any good, properly run software project and becomes critical once the project has been released. You might want to add that to this paragraph:

Ensure good management for any project on which they work, including effective procedures for promotion of quality, configuration management, and reduction of risk. [23i]

Controlling management seems beyond the authority of the managed.

If this were moved into the Management section, and applied to the manager, it makes sense. Otherwise, I strongly disagree.[27a]

Is this directed primarily to managers, or should everyone be expected to campaign against poor management they may be subject to? Unless the professional has input into management, I think going beyond reporting possible risks is too much to expect. Besides, there is a whole principle for management [42a]

1.06 and 1.07

I oppose these clauses due to their unenforcability. Management and estimates are often outside the control of the software professional. I have done estimate numerous times only to see them chopped by management unconcerned with the issues. [43a]

1.07. Ensure realistic estimates of cost, scheduling, personnel, and outcome on any project on which they work or propose to work and provide a risk assessment of these estimates
1.07

Altho your 1.07 is similar, the wording of item 3 of the Swedish code is very nice and perhaps might suggest some adjustment in your statements/ I treads: "only take part in projects with the time and resources

assigned to make it possible to do a good job."
(Swedish Ethical Rules for Computer Professionals 91)
[4i]

Again, this seems like management's job. If the word
"Ensure"
were changed to "Provide", then I'm happy with it. Otherwise,
I strongly disagree.[27a]

1.08. Ensure adequate documentation on any project on which they
work, including a log of problems discovered and solutions
adopted.
1.08

Scratch the log requirement unless customer specified
[13a]

1.08 - You can not force documentation and you
specifically state at least one form of documentations
her (problem/solution logs). [43a]

If a problem has been solved, why should it be
explicitly documented? How about "including a list of
resolved problems and any possible solutions or ways
to avoid them"?[42a]

1.09. Ensure adequate testing, debugging, and review of software
and related documents on which they work.
1.09

Ensure adequate testing and debugging is partly the
responsibility of the product provider but more so, the
responsibility of those purchasing the product.[31a]

1.10. Work to develop software and related documents that respect
the privacy of those who will be subjected to that software.

Are these the clients mentioned earlier? Or the
users? Or the public? ("subjected" is a very
emotionally charged word.) I don't see how software
documentation can possibly violate someone's privacy
(unless they are used as an example in a training
manual.) How about Ensure that the software respects

the privacy all concerned [42a]

1.11. Be careful to use only accurate data derived from legal sources,
and use only in ways properly authorized.

I'd like to see "ethical" in addition to "legal." Some things may not be against the law, but not be ethical. In fact, much data collection today is legal, but invades the privacy of the public. Should this be broadened to cover operating legally? For instance, a patented algorithm may be used illegally and it only very loosely can be considered not in the spirit of 1.11 since it refers to data. [42a]

1.12. Whenever appropriate, delete outdated or flawed data
1.12

I don't agree with the presence of this statement in a Software Engineering Code of Ethics. First, with respect to the data, flawed or outdated data can still be meaningful in other contexts. Second, although it is tempered with the "where appropriate" clause, the action of the statement has a direct impact on the data and the places the Software Engineer in a precarious position. Data are the persistent artifacts of the applications. Generally, the user of the software or other individual should be the steward of the data content, not the Software Engineer.

Finally, if a statement regarding data quality is to appear in the Code of Ethics, it should place the Software Engineer in an advisory role to the steward of the data, not in the role to act upon the data. A more acceptable statement would be something like: "Promote understanding and awareness of the quality of the data management issues that surround the data that affect the product." [10i]

Not (?)thin scope of control. [21a]

"Delete"? How about "remove to archive or delete"
[13a]

If the word "delete" is changed to "delete, mark or report as invalid,"

then this makes sense. Otherwise, it calls on the employee to delete

data that belongs to the employer, and over which he may not have

authority. Maybe this is covered by "whenever appropriate." [27a]

It may be adequate even preferable to flag outdated or flawed data so that we don't lose history. Suggest "... delete or clearly label outdated or ..." [28a]

Modify and evaluate. Maybe store if required later. [29a]

Agree if there is a very strict process in place to determine which is outdated and flawed. [36i].

1.12 - Your outdated data might be my regression test data to keep a 10 year old program running. Deleting bad data is good. [43a]

Possibly 1.10, 1.11, and 1.12 should be combined to say data should be obtained, maintained, and used legally, ethically, and accurately. [42a]

1.13. Work to identify, define and address ethical, economic, cultural, legal, and environmental issues related to any work project.

1.13

Do not insist that computer professional should be "out in front". Remember that some people who really should have known better ridiculed the publicity than when its invention was announced. Social issues are even more treacherous [34a]

1.13 - Please delete this "feel good" make everybody happy and protect the environment stuff. If an individual want to support these goals that is different than saying an entire profession must. [43a]

1.14. Promote maximum quality and minimum cost to the employer, the client, the user and the public. Make any tradeoffs clear to all parties concerned.

1.14

I oppose the last sentence: "Make any tradeoffs clear

to all parties concerned." This is over-specification, and too detailed. Almost every design and implementation decision has quality and cost implications and involves tradeoffs between cost and quality. Yet one certainly does not want to make all these tradeoffs clear to all the parties involved -- nor would they want it. Eliminate this, or quantify with "important", "major", "significant" or other similar terms. [2i]

1.14 & 1.15 - While neutral, I prefer max quality, max profit. Why hasn't Bill Gates lowered the basic price of Win95? He doesn't have to. makes me angry but he would fail 1.14. I find "follow industry standards to be nebulous given the only real standards are ANSI/ISO for code and compilers. DoD Standards don't (and shouldn't) apply to everyone. [43a]

Should I make any tradeoffs clear to the public? Does that mean that everyone at Microsoft (and most of the rest of the industry) is acting unethically because they don't make it clear to the public that quality is being traded off for profit and features? The public generally believes that better quality is unattainable, even though everyone is sick of crashing programs. [42a]

1.15. Work to follow industry standards that are most appropriate for the task at hand, departing from these only when technically justified

1.15

I oppose this statement because of the words "departing from these only when technically justified." There may be other equally valid non-technical reasons for deviating from industry standards; cost or economic standards being one example, and government or other public policy issues or concerns another. Either drop the word "technically" (preferred) or add "economically or otherwise". [2i]

Too restrictive. [21a]

Maybe too vague. [38a]

2. Public

Principle 2: PUBLIC Software engineers shall, in their professional role, act only in ways consistent with the public safety, health and welfare. In particular, software engineers shall:

2.01. Disclose to appropriate persons or authorities any actual or potential danger to the user, a third party, or the environment, that they reasonably believe to be associated with software or related documents for which they are responsible, or merely know about.

2.01

The wording "merely know about" implies a very weak position and should be removed. [9i]

Maybe it is just the phrasing of the statement, but I would strike the final phrase ("merely know about") from this statement. I also would strike "actual or potential". With these corrections, I would have responded "Favor" to this item on the survey.[10i]

2.01 & 2.02 - Please remove "environment" references. [43a]

Where did this "third party" come from? Isn't that the public? [42a]

2.02. Approve software only if they have a well-founded belief that it is safe, meets specifications, has passed appropriate tests, and does not diminish quality of life or harm the environment.

2.02

Item 2.02 of the ACM/IEEE proposed code of ethics states "Approve software only if ... [it] does not ... harm the environment." As I read it, this seems to declare unethical virtually any piece of software related to civil engineering. For example, suppose someone wanted to build a road. The construction of the road could damage the environment by being built in a wetland or other environmentally sensitive area. Any software used in building the road would thus contribute to damage the environment. Software used to help design dams is another case where the clear result of civil engineering software is damage to the

environment. I doubt it is the intention of the code of ethics to declare unethical the development of most civil engineering software but I think it does just that. [26a]

Get real. Complex products are released before all tests pass when prudent risk says probability of catastrophe is acceptably low ~ typically with hundreds of unresolved problem reports.[28a]

2.03. Affix their signature only to documents prepared under their supervision or within their areas of competence and with which they are in agreement.
2.03

2.03 duplicates 3.02 [35a]

"Affix their signature" is somewhat limiting. Does this mean the more general "sign off on"? Is it okay to verbally consent to something, say, under coercion? How about "Sign or affirm"? 4.02 uses the more general "approve." [42a]

2.04. Co-operate in efforts to address matters of grave public concern caused by software or related documents
2.04

Just what is a "grave public concern" Too vague. Don't know what, why to whom. [9i]

Not definable. [21a]

Here are those document again. I really don't understand how software-related documents could be a cause for concern. Are you talking about poor or incorrect documentation leading to problems? [42a]

2.05. Endeavor to produce software that respects diversity.
Issues
of language, different abilities, physical access, mental access, economic advantage, and allocation of resources should all be considered
2.05

I favor respecting diversity, however there is a segment of society that want to go overboard. I don't object to current

wording but don't go any further. [1i]

It is my opinion that diversity is a method of (?)Bathhazing(?) the country, of dividing us into groups for the purpose of creating and consolidating political power, especially on the left. It is a classic use of the principle of divide and conquer. The specific text of clause 2.05 contains a puzzling term " mental access," as opposed to (?) Or (?) physical access." What does that mean? Does that mean the ability to access computers by people whose mental abilities are less than normal? The only way to know of (?)doing(?) Is to (?)"dumbdown" (?) The user interface. I will not for example attempt to create a word processor that the illiterate could use. [8i]

Will this increase cost/time against or beyond specifications? [9i]

I wish this could be worded to include "sensory access" or "sensory abilities". I have to read very broadly to understand that 2.05 includes the needs of the visually impaired and the hearing impaired. With the current technologies we should be able to design for all sensory anomalies. [14i]

I think this should be qualified by stating " where reasonable". I agree that coders should endeavor to do this but many situations exist where this is not needed. How far do they go? [20a]

PC has nothing to do with ethics.[15a]

Targeting the audience of software users should be more of a concern/goal than trying to attack world-hunger with each software produced...it's a bit too forward looking [31a]

The wording of principle 2 and clause 2,05, as compared to principle 1, make it appear to me that supporting diversity is more important than producing a product which meets design specifications. Diversity requirements should be addressed in the specifications and the software engineer should not arbitrarily increase the scope of the work. I would prefer the language to be similar to "Endeavor to produce software that is usable by all members of the target group." All software is

designed for some subset of the human race. To attempt to design software usable by everyone is simply not practical. [35i]

2.05 - Completely unnecessary. If I want to sell worldwide I should take internationalization into account. If I want to write software for middle-age white males I should be allowed to do so with out breaking a code of ethics [43a]

The only portion of your proposal with which I have any real trouble is subsection 2.05. I understand the temptation to include politically correct verbiage, but I object to the clause, especially the phrase "respect diversity". I'm sure Hillary Clinton would applaud this portion, but I find it unacceptable, for the following reasons:

1. It's vague. As an example, some computer programs help insurance companies set prices for policies, sometimes based on where people live. This results in people living in high-crime areas paying higher rates or being denied policies. Statistically, these people are disproportionately minorities. If I work with a client on a project to develop such software, have I violated this subsection? Surely some people who have spoken out against this so-called "red-lining" would say I have. However, if insurance companies have the legal right--perhaps even a fiduciary responsibility to their shareholders--to sell policies based on established risk factors, isn't it in society's interest that the best possible software engineers work on such systems?

2. It's contradictory. I am currently working with a client whose product provides dating-related services over the phone, both for purposes of long-term relationships and simple sexual gratification, some of it homosexual. Being a libertarian, this does not concern me. However, if I were an employee at a contract software firm, and my religious faith condemned premarital and homosexual sex, would I fail to "respect diversity" by refusing to work on such a project, or would my employer fail to "respect diversity" by insisting that I do such work or be fired?

3. It's pointless. Any software engineer who works on games such as those "Nazi death camp" ones so widely reported not too long ago could hardly be expected to trouble his head much with a code of ethics, yes? In

other words, the hardcore "diversity disrespectsors" won't care about this clause. Those of us who will care, already do care.

4. It's dangerous. Recent history abounds with instances of companies and individuals who were branded by the spokesfolks of the politically correct as people who failed to "respect diversity"--the usual words were "bigots", "racists", "homophobes", etc. In some cases, facts emerged to debunk the charges, but by then the demagogues coordinating the public tarring and feathering of the allegedly insensitive entity had built up such a head of steam that not even the truth could stop the stampede. Just by being a white male, my odds of being the guest of dishonor in such an incident are unfairly high. I can ill-afford a code of ethics that exposes me to further ignominy at the hands of some self-appointed protector of some self-designated oppressed element of society. Careers have been ruined this way, in some cases most unfairly.

5. It's unnecessary. I believe other portions of the code adequately address participating in or abetting an illegal act of discrimination or a hate crime. Issues like discrimination, racism, lifestyle-choice rights, and immigration are highly-charged social questions that are both morally complex and rapidly evolving. In my opinion, guidance on these matters is beyond the scope of a professional code of ethics, and surely beyond the scope of two short sentences.

In Stalinist Russia, few examples so capture the fallacy and stupidity of socialism as "Socialist Science". Scientists bent their knees to the Communist Party and its tyrants, pursuing all sorts of ridiculous theories because they met with the approval of the Soviet hierarchy, turning their backs on the truth. I don't want to suggest that this subsection is on the scale of that grotesquely, but I do want to point out a parallel: All science must be ethically and morally informed, but it must not take sides in political matters. Of course, I grant anyone the right to view respecting diversity, however one defines it, as a pillar of one's personal ethics; however, I ask that this code not make it a mandatory part of the ethical values of every software engineer. [39a]

Today "diversity" is used to cover approval of actions with which I strongly disagree. How about the

more neutral "differences"? [42a]

2.06. Be fair and truthful in all statements, particularly public ones,
concerning software or related documents
2.06

In item 2.06 you sat, "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. [4i]

2.07. Not put self-interest, the interest of an employer, the interest of
a client, or the interest of the user ahead of the public's interest.
2.07

Are we the government? [9i]

I think that this statement is problematic. I think it is important that self-interest not subvert the interests of the employer, client, or public; however, the statement is too ambitious when it promotes public interest ahead of that of the employer. If the Software Engineer has adequately "prequalified" the employer or client and determined that the employer or client is not actively working against the public interest, then I suggest that it is the responsibility of the Software Engineer to advise the employer or client regarding any concerns relatively to the interest of the public at large. In this manner, the Software Engineer can play the role of educating those with the ability to affect public interest. [10i]

Stay out of politics or religion. [21a]

So long as one honestly discloses relationship contributing to interest and stays within the law, self-interest must be expected and allowances must be made for it. The "public's interest" is very nebulous, since the public is made up of many constituencies.[28a]

Tricky. What is " public interest" exactly?[34a]

2.07 - Unless working for the government, the public does not directly pay my salary. My self-interest and the interests of my employer are first as long as there are no illegal activities. From this statement everything should be "freeware" since this would be in the public's interest. [43a]

The public would be interested in getting my services for free. How about "Balance self-interest, the interest of ... with the public good"? [42a]

2.08. Donate professional skills to good causes when opportunities arise and contribute to public education with respect to the discipline.

2.08

goody goody has nothing to do with ethics.[15a]

Should be voluntary [32a]

There are many ways to serve our community. The most rewarding, even educational, opportunities serve may have nothing to do with one's profession. This ought to be strictly individual.[34a]

2.08 and 6.11

Donating time and being involved in the community is nice, but not "required", and people may need balance in their life by doing other activities [33a]

One could read this as donating to every good cause, which is, of course, impractical.[42a]

2.09. Accept full responsibility for their own work.
2.09

should be first - in fact section 2 should be #1.[13a]

3.Judgement

Principle 3: JUDGMENT Software engineers shall, insofar as possible and consistent with Principle 2, protect both the independence

of their professional judgment and their reputation for such judgment.
In particular, software engineers shall, as appropriate:

3.01. Maintain professional objectivity with respect to any
software
or related documents they are asked to evaluate.

3.02 Affix their signature only to documents prepared under their
supervision and within their areas of competence
3.02

Item 3,02 is essentially the same as 2.03.[11i]

This is a near-duplicate of 2.03, and this doesn't have
"with which they are in agreement." How about moving
2.03 here?[42a]

3.03. Reject bribery
3.03 and 3.04

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. [4i]

Bribery (under euphemistic terms) is a part of the
culture in many South American countries. This may
be hard to get agreement on. How about "Do not
accept, use, or condone the use of bribes." [42a]

3.04. Accept no payback, kickback, or other payment from a third
party to a contract, except with the knowledge and consent of
all parties to the contract.
3.04

Your phases on the short sheet are more clear than "no
payback....". "Do not accept secret payments." [9i]

The phrase "third party to a contract" seems odd. I
think it should be "party outside the contract" since I'm
sure contracts can have fourth and fifth parties,
too.[42a]

3.05. Accept payment from only one party for any particular project,

or for services specific to that project, except when the circumstances have been fully disclosed to parties concerned and they have given their informed consent.

3.05

"Do not accept" could be changed to indicate a positive statement of clearly defining where and how all payments are expected. A work of software for sale implies many future payments. [9i]

Too vague.[21a]

Why is this phrased differently? "when the circumstances have been fully disclosed to parties concerned and they have given their informed consent" vs. "with the knowledge and consent of all parties to the contract" in 3.04. I like the phrasing of 3.04 better. [42a]

3.06. Disclose to all concerned parties those conflicts of interest that

cannot reasonably be avoided or escaped and aspire to resolve them.

3.07. Refuse to participate in any decision of a governmental or professional body, as a member or advisor, concerned with software, or related documents, in which they, their employer, or their client have a financial interest.

3.07

I favor avoiding undisclosed potential conflicts. At the same time, expect professional behavior. [1i]

I am concerned with the way this is worded, which seems to preclude opposing my employer on anything without company approval. If my company wants to expand a plant and I as a taxpayer of the city involved oppose this because it would be a zoning violation, increase traffic, etc. I should feel free to do so. Even if the issue is "technical" or "software engineering" issue, as a private citizen I should not have to be silent unless my company is trying to sell a software package to the local school district and I think another package would

be better. As a taxpayer, I want to provide such input - and not at the whim of my employer. I can always make clear that I speak for myself, not my employer. [2i]

I have some trouble with the wording of 3.07, Avoiding conflicting financial interests. As worded it seems overly broad in one sense and too narrow in another. I realize that it is just as important to avoid an impression of conflict of interest. However, being engineers we are sometimes called upon by all concerned to render an opinion or vote on a subject. Need we avoid giving opinions when we feel we can be fair and impartial to all concerned? I marked 3.07 as uncertain. Perhaps 3.07 could reference 3.06 to help expose conflicts to all concerned. If approved, an opinion could still be rendered. Perhaps 3.07 could be more like the simple four word definition. [3i]

I may participate. However, I must disclose the conflicts before participation and clearly state. [9i]

The verb "refuse" is too strong. Also, restricting the statement to "financial interest" likely misses other important "interests." A Software Engineer with an interest should fully disclose the nature of the interest. Based on the Software Engineer's belief that an unbiased opinion can be rendered and the comfort of the decision-making body a decision regarding the nature of the participation of the Software Engineer in the decision process can be made and acted on accordingly. [10i]

I disagree with 3.07. What if I'm the only person, or one of the best, qualified to make an informed comment? Even if other people are qualified and willing, this assumes that 1) I'm capable of being objective if I have a financial interest in the subject, 2) I'll be perfectly objective even if I have some other interest in the subject, as long as it's not financial, and 3) the people who listen to me are incapable of recognizing my possible bias and correcting it.

I think a better approach is to require me to disclose any and all interest I have in the subject- financial and otherwise - and let the other people take it into account. That is, assume the people who asked for my

opinion are intelligent enough to know how to interpret it. If they're complete idiots, I probably wouldn't waste my time talking to them, anyway. [11i]

Does this imply you cannot serve on a standards committee developing or enhancing standards for a product that your company has financial interests? [23i]

3.08. Temper all technical judgements by the need to support and maintain human values.

3.08

more PC blech[15a]

This principle seems too ambiguous. I can not envision restricting technological judgement on the basis of any ethical situation [31a]

The government or professional body almost always has a financial interest. If "they" means the professional, this significantly overlaps with 3.06 and is related to 3.03. Maybe this could be worded more clearly. [42a]

3.08 - Whose "human values"? China and the US have pretty different views on the value of humans and what "human values" might be. [43a]

"human values"? How about just "good" or "uplifting" values? (My dictionary says "judgments" is a more standard spelling.) [42a]

4. Client and Employer

PRINCIPLE 4: CLIENT AND EMPLOYER. Software engineers shall, consistent with the public health, safety, and welfare, always act in professional matters as faithful agents and trustees of their client or employer. In particular, software engineers shall:

4.01. Provide service only in areas of their competence
4.01

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.
[4i]

Asks software engineers to "provide service only in areas of their competence." This might lead one to believe that learning "on the job" is not acceptable. Perhaps more clarification is needed here.[16a]

add: except with the knowledge and consent of all parties.[27a]

4.02. Ensure that any document upon which they rely has been approved by someone authorized to approve it.
4.02

How far do we trust supervisors?[1i]

Who will sign? Are all documents used in generation of software spec's signed today? Very Idealistic![9i]

Whose to say who has authority? If I use a text book to learn a new language who tells me what is approved? Many in management ranks high enough to 'approve' such as book might not have a clue as to the technology or significance of it.[20a]

4.03. Use the property of a client or employer only in ways properly authorized, and with the client's or employer's knowledge and consent.

4.04. Not knowingly use illegally obtained or retained software.
4.04

"illegally" change to "unethically"[13a]

4.05. Keep as confidential information gained in their professional work that is not in the public domain, where such confidentiality is not inconsistent with matters of public concern.

This is worded to suggest that I cannot even chat with my wife or colleagues about what I am doing,

even in general terms. I agree that trade secrets, competitive advantage software, etc. must be guarded, but why would it be ethical to talk about a mundane implementation of a payroll program or user interface for library? This overlaps significantly with 5.02. [42a]

4.06. Identify, document, and report to the employer or the client

any problems or matters of social concern in the software or related documents on which they work or of which they are aware.

4.06 - Engineers should not be "social police".[43a]

4.07. Inform the client or the employer promptly if, in their opinion, a

project is likely to fail, to prove too expensive, to violate intellectual property legislation, in particular copyright, patent, and trademarks, or otherwise be problematic.

4.07

I believe that inform is too weak for this statement. In addition to informing, the Software Engineer should provide additional substantiation for his or her opinion. It is also important that the Software Engineer maintain a documentation regarding the informing of the client or employer. [10i]

4.08. Accept no outside work detrimental to the work they perform for their primary employer.

4.08

Vague, Needs to be narrowed in scope. [21a]

4.09. Represent no interest adverse to their employer's without the

employer's specific consent, unless a higher ethical concern is being compromised; then in that case the employer or another appropriate authority should be informed of the engineer's ethical concern.

4.09

Very difficult to read. Is the S.E. being placed in the position of relating adherence to the code which the employer does not abide by? [9i]

should say strongly that this applies in cases of specific conflicts of interest; employers often have a very expansive view of what is "in conflict of interest" - including things that are neutral to the employer [40a]

5. Management

Principle 5 MANAGEMENT. A software engineer in a management or leadership capacity shall act fairly and shall enable and encourage those who they lead to meet their own and collective obligations, including those under this code. In particular, those software engineers in leadership roles shall as appropriate:

An additional item that might be needed is to ensure that coders are given, in sufficient quantities, time to complete documentation. [20a]

Note that I would add two additional clauses under this section:

- * Not punish software engineers informing leadership of problems in the project (as mentioned in clause 4.07 of this code)

- * In cases where software engineers with appropriate education and experience are not immediately available for the project, to ensure the software engineers that are selected for the project are given appropriate education for the project [40a]

5.01. Ensure that employees are informed of standards before being held to them.

What is there are no (clear) standards? It seems that a professional should Ensure there is a fair and reasonable standard of performance, and ensure that employees are informed of them before being held to them."[42a]

5.02. Ensure that employees know the employer's policies and procedures for protecting passwords, files, and other confidential information.
5.02

I think you meant "Ensure that", rather than "Assure." [27a]

5.03. Assign work only after taking into account appropriate contributions of education and experience tempered with a desire to further that education and experience.
5.03

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. [4i]

I don't understand what this means. [27a]

5.03 - This surprised me given the general tone of the document, but come to think of it, affirmative action is out of vogue right now. [43a]

5.04. Provide for due process in hearing charges of violation of an employer's policy or of this code.

5.05. Develop a fair agreement concerning ownership of any software, processes, research, writing, or other intellectual property to which an employee has contributed.
5.05

Are these typically not covered by employee employer contracts or agreements. How can the code override? [9i]

This is "develop" while the above are "ensure." I think "Ensure that there is a fair agreement ..." is better here. [42a]

5.06. Attract employees only by full and accurate description of the conditions of employment.

I'd rather say: "Attract employees only by full and

accurate description of the conditions of employment and working conditions, including expectations regarding hours, shift work, overtime, etc." to make it clear what's being referred to. [40a]

5.07. Offer fair and just remuneration.
5.06 and 5.07

Are these not personal decisions set by the employer rather than the individual S.E.? Perhaps the SE or SE manager could work at assisting, ascertaining or fixing a "fair" wage but that is the company role? [9i]

I don't understand how to determine this. Why would I not accept whatever the hiring company wants to pay me, so long as the payment is not illegal and does not require me to do something unethical? What would be unfair remuneration?[27a]

5.08. Not unjustly prevent a subordinate from taking a better position for which the subordinate is suitably qualified.
5.08
change "subordinate" to "anyone"[13a]

5.09. Not ask an employee to do anything inconsistent with this code.

6. Profession

Principle 6: PROFESSION. Software engineers shall, in all professional matters, advance both the integrity and reputation of their profession as is consistent with public health, safety, and welfare. In particular, software engineers shall, insofar as possible:

6.01. Associate only with reputable businesses and organizations.
6.01

Sounds good in theory, but I'm not so certain about practice. "Reputable" is very subjective, and very much defined by "the establishment". A software engineer working for protesters against the war in Viet Nam could easily have been charged with working with a disreputable group. [2i]

Does this mean I don't play Dungeons and Dragons with a local gaming club because it is considered by some to be a tool of the Devil? If this is restated to make it clear that it means "don't work for the mob, or dictators," then I can agree with it.[27a]

"Reputable" is so subject to interpretation as to be meaningless. While a professional should not covertly partner with a disreputable business or organization, various forms of association are unavoidable in normal human commerce.

6.02. Ensure that clients, employers, and supervisors know of the software engineer's commitment to this code of ethics, and their own responsibility under it.

6.02

Prejudicial.[21a]

This seems to say that the software engineer's commitment to the code also commits the client, employer, and supervisor (the antecedent of "their"). How about "and the software engineer's expectations of them under it"?[42a]

6.03. Support those who similarly do as this code requires.

Uncertain about wording: "those who *do* as this code requires." The group is identified by action, not by profession. How about "Support other software engineers in striving to follow this code." [42a]

6.04. Help develop an organizational environment favorable to acting ethically.

6.05. Report anything reasonably believed to be a violation of this code to appropriate authorities

6.05

Who decides who is the appropriate "authority"?[1i]

To whom? To what avail? This code is very short on enforcement. The legal & medical "professions" are two shiny examples of how poorly this works. [2i]

"Report anything 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. [4i]

To whom? [9i]

6.05 - This should be handled internally to start with. This sounds like you should rat on your cube-mate if they do something wrong.[43a]

A noble goal, but a bit too idealistic (is anonymous reporting okay?) [38a]

Doesn't mean much if the actions are legal, but violate the code, e.g., working outside area of expertise (i.e., 4.01) because there aren't any "appropriate authorities." There would have to be some ACM/IEEE board of software engineering ethics. The punishment? Having your name printed as violating ethical standards. [42a]

6.06. Take responsibility for detecting, correcting, and reporting errors in software and associated documents on which they work.

6.07 - Any professional should get what ever salary they can negotiate as long as they don't inflate their resume.[43a]

6.07. Only accept remuneration appropriate to professional qualifications or experience.

6.07

"Only accept remuneration appropriate to professional qualifications or experience" may be a good rule to advocate, but I don't think in an ethics code. [4i]

"Accept remuneration appropriate" based on what metric. What published standard? [9i]

How is appropriate remuneration determined? Market value? How does an engineer that works as an employee stay abreast of this information? Many companies have policies regarding the sharing of salary information. This places the engineer on unequal footing with the employer who may have an interest in keeping pay low. [10i]

Redundant with 5.07, and confusing for the same reasons.[27a]

6.08. Be accurate in stating the characteristics of software on which they work, avoiding not only false claims but claims that might reasonably be supposed to be deceptive, misleading, or doubtful.

6.09. Not promote their own interest at the expense of the profession.

this self-interest is very broadly defined. An example or examples might be helpful. [40a]

6.10. Obey all laws governing their work, insofar as such obedience is consistent with the public health, safety, and welfare.
6.10

Are not "laws" suppose to be the best interest of the public. If so then why or how could the SE violate the code by following the law, otherwise the code would be better then the law and the SE would somehow have the capacity to know this. How? [9i]

says "obey all laws, unless you don't want to"
unacceptable.[15a]

This says that a professional must place their own judgment above obedience to the law. Granted this must occur in extreme cases, but this clause is much too strong. Perhaps just "Obey all laws governing their work" is enough, and let general statements such as "standards may conflict with each other" and "consistent with public health, safety, and welfare" in Principles 2, 4, and 6 invoke the rare exceptions. After all, we don't tack the clause onto 5.02, 5.06, 6.01, etc. where conflicts may arise. I believe we must encourage obedience to the law even if it may occasionally be contrary to what we perceive as public health, safety, and welfare. A lawless society is a much greater danger than laws requiring one to harm public health, safety, and welfare. How about a clause about working to improve or enact laws to bring about a legal environment conducive to the good development and use of software? [42a]

6.11. Exercise professional responsibility to society by constructively serving in civic affairs.
6.11

more goody goody blech.[15a]

This seems to be a responsibility of every human and is in no way unique to software engineers or their products. 2.08 seems to cover the professional's (unique) contribution to society. [42a]

6.12. Promote public knowledge of software engineering.

6.13. Share useful software-related knowledge, inventions, or discoveries with the profession, for example, by presenting papers at professional meetings, by publishing articles in the technical press, and by serving on the profession's standard-setting bodies.
6.13

Sharing is good so long as not violating or ?shing loss of trade secrets, competitive dis advantage etc..[9i]

Business Conflict. [21a]

A qualification is needed respecting rights of the third parties and confidentiality.[28a]

Conditional upon your terms of employment. I think most computer people feel a little uneasy with things like "propriety", but we ought to give Corporate America the benefit of the doubt. Much good comes from our robust American economy.[34a]

This may often be difficult in light of 4.03, 4.05, and 4.09. Maybe a clause about "as long as it doesn't violate confidences or proprietary knowledge"?[42a]

7. Colleagues

Principle 7: COLLEAGUES. Software engineers shall treat all those with whom they work fairly and take positive steps to support collegial activities. In particular, software engineers shall, as appropriate:

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. [4i]

7.01. Assist colleagues in professional development.

7.02. Review the work of other software engineers, which is not in the public domain, only with their prior knowledge, provided this is consistent with public health, safety, and welfare.

7.02

I oppose the blanket prohibition of reviewing another's work without that person's knowledge or consent. There is no reason a competent, professional software engineer needs to know another person is reviewing their work in all cases. It seems perfectly reasonable to me for someone paying for software to be able to ask as many independent reviewers or outside parties to

check, audit, or otherwise review work along the way.
A professional should expect his work to be reviewed;
he need not be told that this is happening or who is
doing it. [2i]

Business Conflict. [21a]

"Public domain" is too narrow an exception. I should
be able to review any legal obtained work of another
software engineer, although not to "publish" the review
without his/her consent unless the work reviewed has
itself been "published."

How about "only with proper authorization"? If a
client asks me to review lone long-gone engineer's
work, do I have to track him or her down first? [42a]

7.03. Credit fully the work of others.
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 contribution. [4i]

7.04. Review the work of others in an objective, candid, and
properly-documented way.

Switch this with 7.03 so the clauses about reviewing
are together.[42a]

7.05. Give a fair hearing to the opinion, concern, or complaint of
a
colleague.

7.06. Assist colleagues in being fully aware of current standard
work
practices including policies and procedures for protecting
passwords, files, security measures in general, and other
confidential information.

7.07. Not interfere in the professional career progression of any
colleague.

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 provision 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.) [4i]

7.07 - Some folks need their careers interfered with. This would lead me to think I could no get rid of an incompetent engineer because I would most certainly be hindering their career in software. There are also people who are good but miscast in the role they want to play and need nudged into areas fitting their talents.[43a]

7.08. Not undermine another software engineer's job prospects for one's own personal gain.
4.08,5.07,6.07, and 7.08

In areas where competitive negotiation is expected, I should not be my brother's keeper. For 4.08,5.07,6.07, and 7.08, I shouldn't have to worry about avoiding self interest so long as power relationship is reasonably symmetric. Self interest needs to be eschewed? Only where very asymmetric relationship exist.[28a]

7.08

I am concerned about the wording here -- note the survey sheet says "Do no pursue a job offered to a colleague" -- if that sort of "agree not to compete" meaning is intended, then I oppose this. I am against any sort of trade-union, monopolistic, or competition limiting practices. The purpose of the code should not be to limit in any way competition. In no way should standard or fixed fees with any sort of "gentleman's agreement" or "professional agreement" be promoted.

[2i]

Every job I am interviewing for is also being pursued by others. I should sit back and wait!?! Perhaps words like unethical, malicious or other negative sounding words could be interjected but I am still competing with others for jobs. Is "clean open, above board competition" wrong? [9i]

Abbreviated clause is not consistent with text (at least outside of academia!!!)[38a]

Suppose I am competing with another SE for a job which could use a lot of C++ experience. If I have a lot more experience than she does, I don't see the problem with pointing out my greater experience to improve my chances of getting the job (personal gain) and lessening hers (undermining her job prospects). How about something like "Not undermine with false, distorted, or irrelevant information another SE's job prospects ..."? [42a]

7.09. In situations outside of their own areas of competence, call upon the opinions of other professionals who have competence in that area.

8. Self

Principle 8: SELF. Software engineers shall, throughout their career, strive to enhance their own ability to practice their profession as it should be practiced. In particular, software engineers shall continually endeavor to:

8.01. Further their knowledge of developments in the analysis, design, development, and testing of software and related documents, together with the management of the development process.

8.01

I think "specification" should be added to clause 8.01's ;1ST of areas inn which we should further our knowledge, ahead of "design, development and testing." [26a]

8.02. Improve their ability to create safe, reliable, and useful quality software at reasonable cost and within a reasonable time.

8.03. Improve their ability to write accurate, informative, and literate documents in support of software on which they work.
8.03

I am not sure if we (SE's) should document work or if we should engage a professional like technical writer to document the outcome. We might ensure adequate documentation is available. Who does it is another issue.
[9i]

8.04. Improve their understanding of the software and related documents on which they work and of the environment in which they will be used.

8.04

To what purpose other than to enhance abilities to create other products. If so then is it not just repeating concepts? [9i]

8.05. Improve their knowledge of the law governing the software and related documents on which they work.
8.05

50 states with their own regulations, and Federal , too?
This is a bit much to dump on computer professionals.
Lawmakers need to help out with disseminating statutory information and/or standardizing the statutes so here is less to disseminate.[34a]

8.06. Improve their knowledge of this code, its interpretation, and its application to their work.

8.07. Refrain from requiring or influencing others to undertake any action which involves a breach of this code.

8.07. Refrain from requiring or influencing others to undertake

any

action which involves a breach of this code.

8.07

too busy. [21a]

"Influencing" should be strong enough; "requiring" is not necessary. Significantly overlaps 5.09.[42a]

8.08. Consider violations of this code inconsistent with being a professional software engineer and encourage colleagues to adhere to this code.

8.08

too subjective [21a]

8.08 While I believe this is appropriate the contents of this code would keep me from promoting it in its current form.[43a]

From: Mechler, Edmund

Sent: Thursday, November 20, 1997 1:43 PM

To: 'Professional Competence Standards Task Force'

Subject: RE: test

First it was a test of the site; I think it was down this morning.

Second, you must be on the site twice if you get more than one; I sent it to the site only.

How have you been? Haven't heard from you for a while.

ED

From: MANNY NORMAN, SR. SYSTEMS

PROGRAMMER[SMTP:NORMAN_MANNY@ONLINE.EMICH.EDU]

Sent: Thursday, November 20, 1997 11:56 AM

To: Multiple recipients of list PRFCMP-L

Subject: Re: test

In case you want to know - test received!

Manny.

From: MANNY NORMAN, SR. SYSTEMS
PROGRAMMER[SMTP:NORMAN_MANNY@ONLINE.EMICH.EDU]
Sent: Thursday, November 20, 1997 12:01 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Industry Inputs

By the way, I am receiving two copies of everything you send me. You may have me down twice in the database. If you have me down with different email addresses, note that I have several accounts, but all the others forward to this one:

norman_manny@online.emich.edu

Manny

From: Mechler, Edmund
Sent: Thursday, November 20, 1997 10:35 AM
To: Multiple recipients of list PRFCMP-L
Subject: Industry Inputs

The Steering Committe has asked me for some responses from coporate players, in addition to the individual responses. If any of you has contacts that could speak for a company or a major area of that company such as systems development, then please get the code and ballot to them.

Thanks.

Don.

One on the way CIO of Equitable Resources, Inc.
Talking to another two.
Ed

From: Mechler, Edmund
Sent: Thursday, November 20, 1997 10:30 AM
To: Multiple recipients of list PRFCMP-L
Subject: test

Test

From: Mail Delivery Subsystem[SMTP:MAILER-DAEMON@ns.eqt.com]
Sent: Thursday, November 20, 1997 9:16 AM
To: Mechler, Edmund
Subject: Returned mail: Host unknown (Name server: utkvm1.utk.edu: no data known)

<<File: ATT00198.att>> <<Message: Industry Input>>
The original message was received at Thu, 20 Nov 1997 09:15:49 -0500 (EST)
from navajo [10.1.0.20]

----- The following addresses have delivery notifications -----
<prfcmp-1@utkvm1.utk.edu> (unrecoverable error)

----- Transcript of session follows -----
550 <prfcmp-1@utkvm1.utk.edu>... Host unknown (Name server: utkvm1.utk.edu: no data known)

From: Mechler, Edmund
Sent: Thursday, November 20, 1997 9:32 AM
To: 'SEPP LIST'
Subject: Industry Input

The Steering Committee has asked me for some responses from corporate players, in addition to the individual responses. If any of you has contacts that could speak for a company or a major area of that company such as systems development, then please get the code and ballot to them.
Thanks.

Don.

One on the way CIO of Equitable Resources, Inc.
Talking to another two.
Ed

From: Mechler, Edmund
Sent: Thursday, November 20, 1997 9:08 AM
To: Spencer, Richard
Subject: RE: Code of Ethics

Thanks again

From: Spencer, Richard
Sent: Thursday, November 20, 1997 9:06 AM
To: Mechler, Edmund
Subject: RE: Code of Ethics

Carl Rizzo at ERI Services would be a good contact... he's been in the thick of SE for years.

Dick

From: Mechler, Edmund
Sent: Thursday, November 20, 1997 9:04 AM
To: Spencer, Richard
Subject: RE: Code of Ethics

Dick
Thanks. Do you know any other CIOs that I could contact?
Ed

From: Spencer, Richard
Sent: Thursday, November 20, 1997 9:02 AM
To: Mechler, Edmund
Subject: RE: Code of Ethics

Ed-
This is done...
Dick

From: Mechler, Edmund
Sent: Tuesday, November 18, 1997 8:39 AM
To: Spencer, Richard
Subject: Code of Ethics

Dick

I received this message from the Chair of the Ethics Committee:

"The Steering Committee has asked me for some responses from corporate players, in addition to the individual responses. If any of you has contacts that could speak for a company or a major area of that company such as systems development, then please get the code and ballot to them.
Thanks.

Don."

The Steering Committee is responsible for making SE a profession.

If you could find the time to fill out the survey I set you last week and fax it back, I would appreciate it. Since there appears not to be any way of identifying yourself please pass along your position, etc.

Ed

From: Spencer, Richard
Sent: Tuesday, November 18, 1997 2:58 PM
To: Mechler, Edmund
Subject: RE: Code of Ethics

will do.
dick

From: Mechler, Edmund
Sent: Tuesday, November 18, 1997 8:39 AM
To: Spencer, Richard
Subject: Code of Ethics

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If you could find the time to fill out the survey I set you last week and fax it back, I would appreciate it. Since there appears not to be any way of identifying yourself please pass along your position, etc.

Ed

From: Don Gotterbarn[SMTP:gotterba@ACCESS.ETSU.EDU]
Sent: Thursday, November 13, 1997 10:38 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Pubs and added request.

The Steering Committee has asked me for some responses from corporate players, in addition to the individual responses. If any of you has contacts that could speak for a company or a major area of that company such as systems development, then please get the code and ballot to them.
Thanks.

Don.

On Thu, 13 Nov 1997, Ed Mechler wrote:

> Don
> In Computer Nov there isn't any reference in the Index
I didn't find an index for Computer. It is in the table of contents
under Technical activities, also mentioned in correction box on page 11.

> There is a Call for Participation on page 57.

>

> The web addresses on page 90 (survey) are not correct
> (same on 57).

>

> Not /tab/prof/se but /tab/seprof/code.htm

> Need to go to Whats New on ACM

> Third one will not come up.

The third one is the Centre for Computing and Social Responsibility
and their correct site is <http://www.ccsr.cms.dmu.ac.uk/> The article had
it mistakenly as ccsr.cAs....

>

> Is the survey on a web page???

The ballot is not currently on any web page.

> Ed

>

^^

)))))) New Email and Phone Number (((((((
----> Please Update Your Records <-----

Don Gotterbarn gotterba@etsu-tn.edu 001 (423) 439-6849

^^

Professor, Computer and Information Sciences
East Tennessee State University
Box 70711
Johnson City, TN 37614-0711
USA
Fax 001 (423) 461-7119

From: Mechler, Edmund

[illegible]

)))))) New Email and Phone Number (((((((
----> Please Update Your Records <-----

Don Gotterbarn gotterba@etsu.edu 001 (423) 439-6849
 ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^ ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

Professor, Computer and Information Sciences
East Tennessee State University
Box 70711
Johnson City, TN 37614-0711
USA
Fax 001 (423) 461-7119

From: Mechler, Edmund
Sent: Friday, October 10, 1997 8:45 AM
To: 'Mike Davis'
Subject: Discs

Mike
I haven't forgot about the discs but have been really busy; can't look a gift horse in the mouth.
I don't think our job is done since it is still being reviewed; maybe phase 1.
I saw your comments and wondered why your name isn't on the document? I sent the location to a number of mags as a letter but none published.
Thanks for the paper; will read and send back.
Ed

From: Center for the Study of Ethics[SMTP:csep@CHARLIE.CNS.IIT.EDU]
Sent: Thursday, August 28, 1997 12:15 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Decisions to be made: SE Code <From Michael Davis>

****Answers are listed under quoted questions.**

> GENERAL QUESTION
> 1. Replace the word "assure" with the stronger word "ensure"
> replace all occurrences in the Preamble
> Yes no

No

>
> replace all occurrences in the Principles
> yes no
>

No

> QUESTIONS ABOUT THE PRINCIPLES
>
>
> 2. 1.02. Strive to understand fully the specifications
> for software on which they work.
> Replace with
>
> 1.02. Strive to fully understand the specifications
> for software on which they work.
> Yes no

No

>
> 3 1.12 Delete, whenever appropriate, outdated or
> flawed data.
> Replace with
>
> 1.12 Whenever appropriate, delete outdated or
> flawed data.
> Yes No

No

>
> 4. Add 1.13 "related to any work project" at the end of the
> sentence.
> Yes No
>
> Yes

> 5. 2.01 Disclose to appropriate persons or authorities any actual
> or potential danger that they reasonably believe to be associated
> with the software or related documents on which they work, or
> are aware of, may pose to the user, a third party, or the
> environment.
> Replace with
>

> 2.01 Disclose to appropriate persons or authorities any actual or
> potential danger to the user, a third party, or the environment that
> they reasonably believe to be associated with software or related
> documents for which they are responsible, or merely know about.

> Yes No

>

No

> 6. Several comments on this one

> 6a 2.08 Is "feel free" to open-ended and non-committal?

> It doesn't make it seem as if there is any obligation in this regard.

>

> Replace with "Donate professional skills to good causes when
> opportunities arise."

> Yes No

>

No

> 6b 2.08 Add "and contribute to public education with respect to the
> discipline."

> Yes No

>

Yes

> 7. 3.07 replace "Participate in no.." with "Refuse to participate in."

> Yes No

>

No

> 8 Replace 4.04. Not knowingly use illegally obtained or

> retained software on equipment of a client or

> employer or in work performed for a client or

> employer.

>

> Because it reads as though it is otherwise OK to use illegally
> obtained software!

>

> Replace with

> 4.04. "Not knowingly use illegally obtained or retained software."

> Yes No

>

Yes

> 9. In 4.09.. the unless ethical consideration demand otherwise."
>
> Replace with
> "unless a higher ethical concern is being compromised; then in that
> case the employer should be informed of the engineer's ethical
> concern."
> Yes No
>
> No

> 10 5.03. Assign work only after taking into account appropriate
> contributions of education and experience.
>
> Add
> "tempered by a desire to further the education and
> experience of employees"
> Yes No
>
> No

> 11 5.05. Develop a fair agreement concerning ownership of any
> software artifact to which an employee has contributed.
>
> Only "software artifacts"? What about other intellectual property?
>
> Replace
> "Software artifact" with "computer-related artifact"
> Yes No
>
> No

> 12 5.07. Offer only fair and just remuneration.
> Delete only'.
> Yes No
>
> No

> 13 5.08. Not unjustly prevent a subordinate from taking a better
> job for which that subordinate is qualified or experienced.
>
> Replace with
> 5.08 Not unjustly prevent a subordinate from taking a better
> job when the subordinate is qualified for the job.
>
> Yes No

>

Yes

> 15 7.02. Review the work of other software engineers, which is
> not in the public domain, only with their prior knowledge,
> provided this is consistent with safety.

>

> Replace with

> 7.02 If another software engineer's work is not in the public
> domain, review that work only with the appropriate permission
> provides this is consistent with public health, safety, and welfare.

> Yes No

>

No

> 17 7.08. Not take steps to supplant another software engineer
> after steps have been taken for employment

>

> Replace with

> 7.08 Don't try to undermine another software engineer's job
> prospects or firm offer for your own personal gain,

> Yes No

>

No

> 18 8.08. Consider violations of this code inconsistent with being a
> professional software engineer.

> Add

> "and we must do all we can to help our colleagues meet these
> guidelines"

> Yes No

No

Michael Davis Room 102, Stuart Bldg.
Senior Research Associate 10 W. 31st Street
Phone:312-567-3017 Chicago,IL 60616
Fax: 312-567-3106

From: Don Gotterbarn[SMTP:gotterba@Access.ETSU-Tn.Edu]
Sent: Wednesday, August 20, 1997 11:38 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Web Site

Ed,

The code version 3 will be put on the web sites, replacing the current version of the code. The first publication of Code v.3 will occur in early October. I don't want to put v3 on the web sites too much before that publication, because of potential version control problems.

I will be sending version 3 out to the task force shortly.

don

***** NEW EMAIL AND TELEPHONE NUMBER *****
*****Please Update Your Records *****

Don Gotterbarn gotterba@etsu-tn.edu 001 (423) 439-6849

+++++ ++++++

fax (423) 461-7119

d.gotterbarn@computer.org, dgot@dmu.ac.uk

East Tennessee State University
Computer and Information Science
Box 70,711
Johnson City, TN 37614-0711, USA

From: joyce currie little[SMTP:jclittle@MIDGET.TOWSON.EDU]
Sent: Tuesday, August 19, 1997 3:32 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Decisions to be made: SE Code

Hi Don and the gang.. see below:

Joyce Currie Little, Ph.D. & C.C.P. jclittle@towson.edu
Professor, Computer & Information Sciences
Towson University (410) 830-3783 voice mail
Towson, Maryland 21252 (410) 830-3868 fax
U. S. A. home fax: (410) 566-5806

On Thu, 7 Aug 1997, Don Gotterbarn wrote:

> Dear Task Force Member,
>
> There have been several responses to version 2.1 of the draft Software
> Engineering Code. Most of them have been quite favourable. In Corfu,

> the International federation of Information Processing Working Group 9
> viewed the code quite positively.
>
> You have all worked quite hard on this project and now I need two more
> things from you. It is time to develop version 3 of the Code. Below is a
> survey to solicit your opinions about the suggested changes to version
> 2.1. We are on a tight schedule so please vote yes or no. If you don't
> like a phrase then please suggest a better one.
>
> Version 3 of the Code is scheduled to be printed in IEEE Computer in
> October and the Communications of the ACM in November. The
> function of the publication is to solicit opinions on the Code from the
> memberships of the two societies. I need a positive response from each of
> you that you want your name associated with the code and listed officially
> in these publications as part of the task force that developed the code. If
> I don't receive a positive response from you that you want your name
> listed then it will not be included in the list.
>
> >From all the comments I have received, you can be proud of your work
> on this!!!
>
> Thanks!
>
> Don

YES, I will be pleased to have my name associated with the
Task Force and the work of the group.

Note tho, on my name, it's Little, Joyce Currie
alphabetized on L, no hyphens, etc.. Thanks.
Lots of publications do it otherwise.

>

-

> -----

> GENERAL QUESTION

> 1. Replace the word "assure" with the stronger word "ensure"

> replace all occurrences in the Preamble

> Yes no

>

YES

> replace all occurrences in the Principles

> yes no

>

YES

> QUESTIONS ABOUT THE PRINCIPLES

>

>

> 2. 1.02. Strive to understand fully the specifications

> for software on which they work.

> Replace with

>

> 1.02. Strive to fully understand the specifications

> for software on which they work.

> Yes no

>

YES

> 3 1.12 Delete, whenever appropriate, outdated or

> flawed data.

> Replace with

>

> 1.12 Whenever appropriate, delete outdated or

> flawed data.

> Yes No

>

YES

> 4. Add 1.13 "related to any work project" at the end of the

> sentence.

> Yes No

>

YES

> 5. 2.01 Disclose to appropriate persons or authorities any actual

> or potential danger that they reasonably believe to be associated

> with the software or related documents on which they work, or

> are aware of, may pose to the user, a third party, or the

> environment.

> Replace with

>

> 2.01 Disclose to appropriate persons or authorities any actual or

> potential danger to the user, a third party, or the environment that

> they reasonably believe to be associated with software or related

> documents for which they are responsible, or merely know about.

> Yes No

>

YES

> 6. Several comments on this one

> 6a 2.08 Is "feel free" to open-ended and non-committal?

> It doesn't make it seem as if there is any obligation in this regard.

>

> Replace with "Donate professional skills to good causes when
> opportunities arise."

> Yes No

>

YES

> 6b 2.08 Add "and contribute to public education with respect to the
> discipline."

> Yes No

>

YES

> 7. 3.07 replace "Participate in no.." with "Refuse to participate in."

> Yes No

>

YES

> 8 Replace 4.04. Not knowingly use illegally obtained or

> retained software on equipment of a client or

> employer or in work performed for a client or

> employer.

>

> Because it reads as though it is otherwise OK to use illegally
> obtained software!

>

> Replace with

> 4.04. "Not knowingly use illegally obtained or retained software."

> Yes No

>

YES

> 9. In 4.09.. the unless ethical consideration demand otherwise."

>

> Replace with

> "unless a higher ethical concern is being compromised; then in that
> case the employer should be informed of the engineer's ethical
> concern."

> Yes No

>

note: grammatical concern with 4.09.. See text.. below, I think there
should NOT be an apostrophe in the word employer's the first time

it is used, as it is I think, simply a plural and not possessive case. See below in that text, ok?

YES on Q. 9

> 10 5.03. Assign work only after taking into account appropriate
> contributions of education and experience.

>

> Add

> "tempered by a desire to further the education and
> experience of employees"

> Yes No

>

NO I do not like the addition. Leave it the way it is.

> 11 5.05. Develop a fair agreement concerning ownership of any
> software artifact to which an employee has contributed.

>

> Only "software artifacts"? What about other intellectual property?

>

> Replace

> "Software artifact" with "computer-related artifact"

> Yes No

>

NO, don't like "computer-related artifact" and would prefer
simply with this: Develop a fair agreement concerning
the ownership of any intellectual
property to which an employee has contributed.

> 12 5.07. Offer only fair and just remuneration.

> Delete only'.

> Yes No

>

YES

> 13 5.08. Not unjustly prevent a subordinate from taking a better
> job for which that subordinate is qualified or experienced.

>

> Replace with

> 5.08 Not unjustly prevent a subordinate from taking a better
> job when the subordinate is qualified for the job.

>

> Yes No

>

YES

> 15 7.02. Review the work of other software engineers, which is
 > not in the public domain, only with their prior knowledge,
 > provided this is consistent with safety.
 >
 > Replace with
 > 7.02 If another software engineer's work is not in the public
 > domain, review that work only with the appropriate permission
 > provides this is consistent with public health, safety, and welfare.
 > Yes No
 >
 > YES, except spell it provided instead of provides !

What happened to # 16 ????

> 17 7.08. Not take steps to supplant another software engineer
 > after steps have been taken for employment
 >
 > Replace with
 > 7.08 Don't try to undermine another software engineer's job
 > prospects or firm offer for your own personal gain,
 > Yes No
 >
 > YES

> 18 8.08. Consider violations of this code inconsistent with being a
 > professional software engineer.
 > Add
 > "and we must do all we can to help our colleagues meet these
 > guidelines"
 > Yes No
 > YES

> -----
 >
 > DRAFT SOFTWARE ENGINEERING CODE OF ETHICS
 >
 >
 > PREAMBLE v (2.last)
 >

> Computers now have a central and growing role in commerce, industry,
> government, medicine, education, entertainment, social affairs, and
> ordinary life. Those who contribute, by direct participation or by
> teaching, to the design and development of software systems have
> significant opportunities both to do good or to cause harm, and to
> influence and enable others to do good or cause harm. To assure, as
> much as possible, that this power will be used for good, software
> engineers must commit themselves to making the design and
> development of software a beneficial and respected profession. In
> accordance with that commitment, software engineers shall adhere to
> the following Code of Ethics.

>

> The Code contains eight Principles related to the behavior of
> and decisions made by professional software engineers, be they
> practitioners, educators, managers and supervisors, or policy makers,
> as well as trainees and students of the profession. The Principles
> identify the various relationships in which individuals, groups, and
> organizations participate and the primary obligations within these
> relationships.

>

> Each Principle of this code addresses three levels of ethical obligation
> owed by professional software engineers in each of these
> relationships. The first level identified is a set of ethical values,
> which professional software engineers share with all other human beings
> by virtue of their humanity. The second level obliges software
> engineering professionals to more challenging obligations than those
> required at level one. Level two obligations are required because
> professionals owe special care to people affected by their work.
> The third and deeper level comprises several obligations which derive
> directly from elements unique to the professional practice of software
> engineering. The Clauses of each Principle are illustrations of the various
> levels of obligation included in that relationship.

>

> The Clauses under each Principle consist of three different types of
> statement corresponding to each level. Level One: Aspire (to be
> human); statements of aspiration provide vision and objectives and are
> intended to direct professional behavior. These directives require
> significant ethical judgement. Level Two: Expect (to be professional);
> Statements of expectation express the obligations of all professionals
> and professional attitudes. Again, they do not describe the specific
> behavior details, but they clearly indicate professional responsibilities
> in computing. Level Three: Demand (to use good practices);
> statements of demand assert more specific behavioral responsibilities
> within software engineering, which are more closely related to the
> current state of the art. The range of statements is from the more
> general aspirational statement to specific measurable requirements.

- >
- > Although all three levels of professional obligation are recognized, the
- > Code is not intended to be all inclusive, nor is it intended that its
- > individual parts be used in isolation to justify errors of omission or
- > commission. The list of Principles and Clauses is not exhaustive, and
- > should not be read as separating the acceptable from the unacceptable in
- > professional conduct in all practical situations. The Code is not a simple
- > ethical algorithm which generates ethical decisions. In some situations
- > standards may conflict with each other or with standards from other
- > sources. These situations require the software engineer to use ethical
- > judgement to act in a manner which is most consistent with the spirit of
- > the Code of Ethics, given the circumstances.
- >
- > These ethical tensions can best be addressed by thoughtful consideration
- > of fundamental principles, rather than reliance on detailed regulations.
- > These Principles should influence you to consider broadly who is affected
- > by your work; to examine if you and your colleagues are treating other
- > human beings with due respect; to speculate on how the public would
- > view your decision if they were reasonably well informed; to analyze how
- > the least empowered will be affected by your decision; and to consider if
- > your acts would be considered worthy of the ideal professional working
- > as a software engineer. Since this code represents a consensus of those
- > engaged in the profession one should take into account what is likely to
- > be judged as the most ethical way to act in the circumstances by
- > informed, respected, and experienced peers in possession of all the facts
- > and only depart from such a course for profound reasons, backed with
- > careful judgement.
- >
- > The dynamic and demanding context of software engineering requires a
- > code that is adaptable and relevant to new situations as they occur.
- > However even in this generality, the code provides support for the
- > software engineer who needs to take positive action by documenting the
- > ethical stance of the profession; it provides an ethical foundation to
- > which individuals within teams and the team as a whole can appeal. The
- > code also helps to define those things which are ethically improper to
- > request of an software engineer.
- >
- > The code has an educational function, stating what is required of anyone
- > wishing to join or continue in the software engineering community.
- > Because it expresses the consensus of the profession on ethical issues, it
- > can be used as a guide to decision making and as means to educate both
- > the public and aspiring professionals about the professional obligation of
- > all software engineers.
- >
- >
- >

> PRINCIPLES v 2.last

> Principle 1: PRODUCT. Software engineers shall, insofar as possible,
> assure that the software on which they work is useful and of acceptable
> quality to the public, the employer, the client, and the user; completed
> on time and at reasonable cost; and free of error. In particular, software
> engineers shall, as appropriate:

>

> 1.01. Ensure that specifications for software on which they work
> have been well documented, satisfy the user's requirements, and
> have the client's approval.

> 1.02. Strive to understand fully the specifications for software on
> which they work.

> 1.03. Ensure that they are qualified, by an appropriate combination of
> education and experience, for any project on which they work or
> propose to work.

> 1.04. Ensure proper and achievable goals and objectives for any project
> on which they work or propose.

> 1.05. Ensure an appropriate methodology for any project on which
> they work or propose to work.

> 1.06. Ensure good management for any project on which they work,
> including effective procedures for promotion of quality and
> reduction of risk.

> 1.07. Ensure realistic estimates of cost, scheduling, personnel, and
> outcome on any project on which they work or propose to work
> and provide a risk assessment of these estimates.

> 1.08. Ensure adequate documentation on any project on which they
> work, including a log of problems discovered and solutions
> adopted.

> 1.09. Ensure adequate testing, debugging, and review of software and
> related documents on which they work.

> 1.10. Work to develop software and related documents that respect
> the privacy of those who will be subjected to that software.

> 1.11. Be careful to use only accurate data derived from legal sources,
> and use only in ways properly authorized.

> 1.12. Delete, whenever appropriate, outdated or flawed data.

> 1.13. Work to identify, define and address ethical, economic, cultural,
> legal, and environmental issues.

> 1.14. Promote maximum quality and minimum cost to the employer, the
> client, the user and the public. Make any tradeoffs clear to all
> parties concerned.

> 1.15. Work to follow industry standards that are most appropriate for
> the task at hand, departing from these only when technically
> justified.

>

> Principle 2: PUBLIC. Software engineers shall, in their professional
> role, act only in ways consistent with the public safety, health and

> welfare. In particular, software engineers shall:

>

> 2.01. Disclose to appropriate persons or authorities any actual or
> potential danger that they reasonably believe to be associated with
> the software or related documents on which they work, or are
> aware of, may pose to the user, a third party, or the environment.

> 2.02. Approve software only if they have a well-founded belief that it
> is safe, meets specifications, has passed appropriate tests, and
> does not diminish quality of life or harm the environment.

> 2.03. Affix their signature only to documents prepared under their
> supervision or within their areas of competence and with
> which they are in agreement.

> 2.04. Co-operate in efforts to address matters of grave public concern
> caused by software or related documents.

> 2.05. Endeavor to produce software that respects diversity. Issues of
> language, different abilities, physical access, mental access,
> economic advantage, and allocation of resources should all be
> considered.

> 2.06. Be fair and truthful in all statements, particularly public ones,
> concerning software or related documents.

> 2.07. Not put self-interest, the interest of an employer, the interest of
> a client, or the interest of the user ahead of the public's
interest.

> 2.08. Feel free to donate professional skills to good causes.

> 2.09. Accept full responsibility for their own work.

>

> Principle 3: JUDGMENT. Software engineers shall, insofar as possible
> and consistent with Principle 2, protect both the independence of their
> professional judgment and their reputation for such judgment. In
> particular, software engineers shall, as appropriate:

>

> 3.01. Maintain professional objectivity with respect to any software or
> related documents they are asked to evaluate.

> 3.02. Affix their signature only to documents prepared under their
> supervision and within their areas of competence.

> 3.03. Reject bribery.

> 3.04. Accept no payback, kickback, or other payment from a third
> party to a contract, except with the knowledge and consent of all
> parties to the contract.

> 3.05. Accept payment from only one party for any particular project, or
> for services specific to that project, except when the
> circumstances have been fully disclosed to parties concerned and
> they have given their informed consent.

> 3.06. Disclose to all concerned parties those conflicts of interest that
> cannot reasonably be avoided or escaped and aspire to resolve
> them.

- > 3.07. Participate in no decision of a governmental or professional
- > body, as a member or advisor, concerned with software, or
- > related documents, in which they, their employer, or their client
- > have a financial interest.
- > 3.08. Temper all technical judgements by the need to support and
- > maintain human values.
- >
- > **PRINCIPLE 4: CLIENT AND EMPLOYER.** Software engineers shall,
- > consistent with the public health, safety, and welfare, always act in
- > professional matters as faithful agents and trustees of their client or
- > employer. In particular, software engineers shall:
- >
- > 4.01. Provide service only in areas of their competence.
- > 4.02. Assure that any document upon which they rely has been
- > approved by someone authorized to approve it.
- > 4.03. Use the property of a client or employer only in ways properly
- > authorized, and with the client's or employer's knowledge and
- > consent.
- > 4.04. Not knowingly use illegally obtained or retained software on
- > equipment of a client or employer or in work performed for a
- > client or employer.
- > 4.05. Keep as confidential information gained in their professional
- > work that is not in the public domain (and is not inconsistent),
- > where such confidentiality is consistent with matters of public
- > concern.
- > 4.06. Identify, document, and report to the employer or the client any
- > problems or matters of social concern in the software or related
- > documents on which they work or of which they are aware.
- > 4.07. Inform the client or the employer promptly if, in their opinion, a
- > project is likely to fail, to prove too expensive, to violate
- > intellectual property legislation, in particular copyright, patent,
- > and trademarks, or otherwise be problematic.
- > 4.08. Accept no outside work detrimental to the work they perform
- > for their primary employer.
- > 4.09. Represent no interest adverse to their employer's without the
- > employer's specific consent, unless ethical considerations
- > demand otherwise.
- >

NOTE IN 4.09 THE FIRST USE OF THE WORD "EMPLOYER'S" -

It should not have an apostrophe, as it means plural, whereas each individual should represent no interest adverse to their employer individually, so collectively it should be their employers. The NEXT use of employer's is OK with the apostrophe as it is possessive case, referring to the employer's specific consent.

> Principle 5 MANAGEMENT. A software engineer in a management or
> leadership capacity shall act fairly and shall enable and encourage
> those who they lead to meet their own and collective obligations,
> including those under this code. In particular, those software engineers
> in leadership roles shall as appropriate:

- >
- > 5.01. Assure that employees are informed of standards before being
> held to them.
- > 5.02. Assure that employees know the employer's policies and
> procedures for protecting passwords, files, and other confidential
> information.
- > 5.03. Assign work only after taking into account appropriate
> contributions of education and experience.
- > 5.04. Provide for due process in hearing charges of violation of an
> employer's policy or of this code.
- > 5.05. Develop a fair agreement concerning ownership of any software
> artifact to which an employee has contributed.
- > 5.06. Attract employees only by full and accurate description of the
> conditions of employment.
- > 5.07. Offer only fair and just remuneration.
- > 5.08. Not unjustly prevent a subordinate from taking a better job for
> which that subordinate is qualified or experienced.
- > 5.09. Not ask an employee to do anything inconsistent with this code.

>

> Principle 6: PROFESSION. Software engineers shall, in all
> professional matters, advance both the integrity and reputation of their
> profession as is consistent with public health, safety, and welfare. In
> particular, software engineers shall, insofar as possible:

- >
- > 6.01. Associate only with reputable businesses and organizations.
- > 6.02. Assure that clients, employers, and supervisors know of the
> software engineer's commitment to this code of ethics, and their
> own responsibility under it.
- > 6.03. Support those who similarly do as this code requires.
- > 6.04. Help develop an organizational environment favorable to acting
> ethically.
- > 6.05. Report anything reasonably believed to be a violation of this
> code to appropriate authorities.
- > 6.06. Take responsibility for detecting, correcting, and reporting
> errors in software and associated documents on which they
> work.
- > 6.07. Only accept remuneration appropriate to professional
> qualifications or experience.
- > 6.08. Be accurate in stating the characteristics of software on which
> they work, avoiding not only false claims but claims that might

- > reasonably be supposed to be deceptive, misleading, or
- > doubtful.
- > 6.09. Not promote their own interest at the expense of the profession.
- > 6.10. Obey all laws governing their work, insofar as such obedience is
- > consistent with the public health, safety, and welfare.
- > 6.11. Exercise professional responsibility to society by constructively
- > serving in civic affairs.
- > 6.12. Promote public knowledge of software engineering.
- > 6.13. Share useful software-related knowledge, inventions, or
- > discoveries with the profession, for example, by presenting
- > papers at professional meetings, by publishing articles in the
- > technical press, and by serving on the profession's
- > standard-setting bodies.
- >
- > Principle 7: COLLEAGUES. Software engineers shall treat all those with
- > whom they work fairly and take positive steps to support collegial
- > activities. In particular, software engineers shall, as appropriate:
- >
- > 7.01. Assist colleagues in professional development.
- > 7.02. Review the work of other software engineers, which is not in
- > the public domain, only with their prior knowledge, provided
- > this is consistent with safety.
- > 7.03. Credit fully the work of others.
- > 7.04. Review the work of others in an objective, candid, and
- > properly-documented way.
- > 7.05. Give a fair hearing to the opinion, concern, or complaint of a
- > colleague.
- > 7.06. Assist colleagues in being fully aware of current standard work
- > practices including policies and procedures for protecting
- > passwords, files, security measures in general, and other
- > confidential information.
- > 7.07. Not interfere in the professional career progression of any
- > colleague.
- > 7.08. Not take steps to supplant another software engineer after steps
- > have been taken for employment.
- > 7.09. In situations outside of their own areas of competence, call upon
- > the opinions of other professionals who have competence in that
- > area.
- >
- > Principle 8: SELF. Software engineers shall, throughout their career,
- > strive to enhance their own ability to practice their profession as it should
- > be practiced. In particular, software engineers shall continually endeavor
- > to:
- >
- > 8.01. Further their knowledge of developments in the design,
- > development, and testing of software and related documents,

> Box 70711
> Johnson City, TN 37614-0711
> USA
> Fax 001 (423) 461-7119

>
>

From: Mechler, Edmund
Sent: Tuesday, August 19, 1997 8:35 AM
To: 'SEEPP LIST'
Subject: Web Site

Don
Will the Code, new version, still be on the
web site?
Ed

From: Laurie Werth[SMTP:lwerth@CS.UTEXAS.EDU]
Sent: Monday, August 11, 1997 1:28 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Decisions to be made: SE Code

Yes, I would like to be included on the Task Force Report.

laurie

ps any ideas about a workshop?

Laurie Honour Werth
Department of Computer Sciences
The University of Texas at Austin
Austin, TX 78712-1188

Phone: 512-471-9535
Fax: 512-471-8885
email: lwerth@cs.utexas.edu

From: Duncan Langford[SMTP:D.Langford@UKC.AC.UK]
Sent: Monday, August 11, 1997 5:24 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Decisions to be made: SE Code

On Thu, 7 Aug 1997 12:35:19 -0400 Don Gotterbarn wrote:

- > I need a positive response from each of
- > you that you want your name associated with the code and listed officially
- > in these publications as part of the task force that developed the code.

Yes, please include my name.

> -----

> GENERAL QUESTION

- > 1. Replace the word "assure" with the stronger word "ensure"
- > replace all occurrences in the Preamble
- > Yes no

YES

- > replace all occurrences in the Principles
- > yes no

YES

> QUESTIONS ABOUT THE PRINCIPLES

- >
- >
- > 2. 1.02. Strive to understand fully the specifications
- > for software on which they work.
- > Replace with
- >
- > 1.02. Strive to fully understand the specifications
- > for software on which they work.
- > Yes no

YES

- > 3 1.12 Delete, whenever appropriate, outdated or
- > flawed data.
- > Replace with
- >
- > 1.12 Whenever appropriate, delete outdated or
- > flawed data.
- > Yes No

YES

- > 4. Add 1.13 "related to any work project" at the end of the
- > sentence.
- > Yes No

YES

- > 5. 2.01 Disclose to appropriate persons or authorities any actual
- > or potential danger that they reasonably believe to be associated
- > with the software or related documents on which they work, or
- > are aware of, may pose to the user, a third party, or the
- > environment.
- > Replace with
- >
- > 2.01 Disclose to appropriate persons or authorities any actual or
- > potential danger to the user, a third party, or the environment that
- > they reasonably believe to be associated with software or related
- > documents for which they are responsible, or merely know about.
- > Yes No

YES

- > 6. Several comments on this one
- > 6a 2.08 Is "feel free" to open-ended and non-committal?
- > It doesn't make it seem as if there is any obligation in this regard.
- >
- > Replace with "Donate professional skills to good causes when
- > opportunities arise."
- > Yes No

YES

- > 6b 2.08 Add "and contribute to public education with respect to the
- > discipline."
- > Yes No

NO

- > 7. 3.07 replace "Participate in no.." with "Refuse to participate in."
- > Yes No

YES

- > 8 Replace 4.04. Not knowingly use illegally obtained or
- > retained software on equipment of a client or
- > employer or in work performed for a client or
- > employer.
- >
- > Because it reads as though it is otherwise OK to use illegally
- > obtained software!

>
> Replace with
> 4.04. "Not knowingly use illegally obtained or retained
> software."
> Yes No

YES

> 9. In 4.09.. the unless ethical consideration demand otherwise."
>
> Replace with
> "unless a higher ethical concern is being compromised; then in that
> case the employer should be informed of the engineer's ethical
> concern."
> Yes No

NO

> 10 5.03. Assign work only after taking into account appropriate
> contributions of education and experience.
>
> Add
> "tempered by a desire to further the education and
> experience of employees"
> Yes No

YES

> 11 5.05. Develop a fair agreement concerning ownership of any
> software artifact to which an employee has contributed.
>
> Only "software artifacts"? What about other intellectual property?
>
> Replace
> "Software artifact" with "computer-related artifact"
> Yes No

NO

> 12 5.07. Offer only fair and just remuneration.
> Delete only'.
> Yes No

YES

> 13 5.08. Not unjustly prevent a subordinate from taking a better

- > job for which that subordinate is qualified or experienced.
- >
- > Replace with
- > 5.08 Not unjustly prevent a subordinate from taking a better
- > job when the subordinate is qualified for the job.
- >
- > Yes No

YES

- > 15 7.02. Review the work of other software engineers, which is
- > not in the public domain, only with their prior knowledge,
- > provided this is consistent with safety.
- >
- > Replace with
- > 7.02 If another software engineer's work is not in the public
- > domain, review that work only with the appropriate permission
- > provides this is consistent with public health, safety, and welfare.
- > Yes No

NO

- > 17 7.08. Not take steps to supplant another software engineer
- > after steps have been taken for employment
- >
- > Replace with
- > 7.08 Don't try to undermine another software engineer's job
- > prospects or firm offer for your own personal gain,
- > Yes No

YES

- > 18 8.08. Consider violations of this code inconsistent with being a
- > professional software engineer.
- > Add
- > "and we must do all we can to help our colleagues meet these
- > guidelines"
- > Yes No

NO

From: Don Gotterbarn[SMTP:gotterba@ACCESS.ETSU-TN.EDU]
Sent: Friday, August 08, 1997 5:32 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Decisions to be made: SE Code

Peter, Thanks for the quick response.

I guess the reason you sent you vote to the entire group is that you wanted them all to see your comments on the code and not that you wanted them have the URL of your grandchild.
don

^^

)))))) New Email and Phone Number (((((((
----> Please Update Your Records <-----

Don Gotterbarn gotterba@etsu-tn.edu 001 (423) 439-6849
^^

Professor, Computer and Information Sciences
East Tennessee State University
Box 70711
Johnson City, TN 37614-0711
USA
Fax 001 (423) 461-7119

From: PRP1@AOL.COM[SMTP:PRP1@AOL.COM]
Sent: Friday, August 08, 1997 4:13 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Decisions to be made: SE Code

August 8, 1997

Hi Don:

Here are my answers to V1.2. Also, I guess it may be appropriate to tell you that I became a grand father, Pappa, on July 26th! Check out my grand daughter's home page at <http://members.aol.com/PRP1/index.html>
I haven't stopped smiling!!

Again, thank you for your leadership on this very important work. We will be leaving behind a much better generation of SW engineers with our codified experiences.

Best regards,

Pete

DG080897

Peter Ron Prinzivalli

GENERAL QUESTION and responses from
Peter Ron Prinzivalli, Software Management Consultant
Yes, please include my name and title in all Code publications.

1. Replace the word "assure" with the stronger word "ensure"
replace all occurrences in the Preamble
Yes no

replace all occurrences in the Principles
yes

QUESTIONS ABOUT THE PRINCIPLES

2. 1.02. Strive to understand fully the specifications
for software on which they work.
Replace with

1.02. Strive to fully understand the specifications
for software on which they work.
Yes

- 3 1.12 Delete, whenever appropriate, outdated or
flawed data.
Replace with

1.12 Whenever appropriate, delete outdated or
flawed data.
Yes

4. Add 1.13 "related to any work project" at the end of the
sentence.
Yes

5. 2.01 Disclose to appropriate persons or authorities any actual
or potential danger that they reasonably believe to be associated
with the software or related documents on which they work, or
are aware of, may pose to the user, a third party, or the
environment.
Replace with

2.01 Disclose to appropriate persons or authorities any actual or
potential danger to the user, a third party, or the environment that
they reasonably believe to be associated with software or related

documents for which they are responsible, or merely know about.

Yes

6. Several comments on this one

6a 2.08 Is "feel free" to open-ended and non-committal?

It doesn't make it seem as if there is any obligation in this regard.

Replace with "Donate professional skills to good causes when opportunities arise."

Yes

6b 2.08 Add "and contribute to public education with respect to the discipline."

Yes

7. 3.07 replace "Participate in no.." with "Refuse to participate in."

Yes

8 Replace 4.04. Not knowingly use illegally obtained or retained software on equipment of a client or employer or in work performed for a client or employer.

Because it reads as though it is otherwise OK to use illegally obtained software!

Replace with

4.04. "Not knowingly use illegally obtained or retained software."

Yes

9. In 4.09.. the unless ethical consideration demand otherwise."

Replace with

"unless a higher ethical concern is being compromised; then in that case the employer should be informed of the engineer's ethical concern."

Yes

10 5.03. Assign work only after taking into account appropriate contributions of education and experience.

Add

"tempered by a desire to further the education and experience of employees"

No

- 11 5.05. Develop a fair agreement concerning ownership of any software artifact to which an employee has contributed.

Only "software artifacts"? What about other intellectual property?

Replace

"Software artifact" with "computer-related artifact"

Yes

- 12 5.07. Offer only fair and just remuneration.

Delete only'.

No

- 13 5.08. Not unjustly prevent a subordinate from taking a better job for which that subordinate is qualified or experienced.

Replace with

5.08 Not unjustly prevent a subordinate from taking a better job when the subordinate is qualified for the job.

Yes

- 15 7.02. Review the work of other software engineers, which is not in the public domain, only with their prior knowledge, provided this is consistent with safety.

Replace with

7.02 If another software engineer's work is not in the public domain, review that work only with the appropriate permission provides this is consistent with public health, safety, and welfare.

Yes and CHANGE "provides" WITH PROVIDED

- 17 7.08. Not take steps to supplant another software engineer after steps have been taken for employment

Replace with

7.08 Don't try to undermine another software engineer's job prospects or firm offer for your own personal gain,

Yes

- 18 8.08. Consider violations of this code inconsistent with being a professional software engineer.

Add

"and we must do all we can to help our colleagues meet these guidelines"

Yes ADD A COMMA AFTER THE WORD ENGINEER

Maybe add another one with this comment in it.

From: Mark Kanko[SMTP:mkanko@AFIT.AF.MIL]
Sent: Friday, August 08, 1997 12:24 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Decisions to be made: SE Code

On Thu, 7 Aug 1997 12:35:19 -0400 Don Gotterbarn wrote:

- > I need a positive response from each of
- > you that you want your name associated with the code and listed officially
- > in these publications as part of the task force that developed the code.

Yes, please include my name.

- > -----
> GENERAL QUESTION
> 1. Replace the word "assure" with the stronger word "ensure"
> replace all occurrences in the Preamble
> Yes no

Yes

- > replace all occurrences in the Principles
- > yes no

Yes

- > QUESTIONS ABOUT THE PRINCIPLES
- >
- >
- > 2. 1.02. Strive to understand fully the specifications
- > for software on which they work.
- > Replace with
- >
- > 1.02. Strive to fully understand the specifications
- > for software on which they work.
- > Yes no

Yes

- > 3 1.12 Delete, whenever appropriate, outdated or

> flawed data.
> Replace with
>
> 1.12 Whenever appropriate, delete outdated or
> flawed data.
> Yes No

Yes

> 4. Add 1.13 "related to any work project" at the end of the
> sentence.
> Yes No

Yes

> 5. 2.01 Disclose to appropriate persons or authorities any actual
> or potential danger that they reasonably believe to be associated
> with the software or related documents on which they work, or
> are aware of, may pose to the user, a third party, or the
> environment.
> Replace with
>
> 2.01 Disclose to appropriate persons or authorities any actual or
> potential danger to the user, a third party, or the environment that
> they reasonably believe to be associated with software or related
> documents for which they are responsible, or merely know about.
> Yes No

Yes

> 6. Several comments on this one
> 6a 2.08 Is "feel free" to open-ended and non-committal?
> It doesn't make it seem as if there is any obligation in this regard.
>
> Replace with "Donate professional skills to good causes when
> opportunities arise."
> Yes No

No

> 6b 2.08 Add "and contribute to public education with respect to the
> discipline."
> Yes No

Yes

- > 7. 3.07 replace "Participate in no.." with "Refuse to participate in."
- > Yes No

Yes

- > 8 Replace 4.04. Not knowingly use illegally obtained or
- > retained software on equipment of a client or
- > employer or in work performed for a client or
- > employer.
- >
- > Because it reads as though it is otherwise OK to use illegally
- > obtained software!
- >
- > Replace with
- > 4.04. "Not knowingly use illegally obtained or retained software."
- > Yes No

Yes

- > 9. In 4.09.. the unless ethical consideration demand otherwise."
- >
- > Replace with
- > "unless a higher ethical concern is being compromised; then in that
- > case the employer should be informed of the engineer's ethical
- > concern."
- > Yes No

Yes

- > 10 5.03. Assign work only after taking into account appropriate
- > contributions of education and experience.
- >
- > Add
- > "tempered by a desire to further the education and
- > experience of employees"
- > Yes No

Yes!

- > 11 5.05. Develop a fair agreement concerning ownership of any
- > software artifact to which an employee has contributed.
- >
- > Only "software artifacts"? What about other intellectual property?
- >
- > Replace
- > "Software artifact" with "computer-related artifact"

> Yes No

No

> 12 5.07. Offer only fair and just remuneration.

> Delete only'.

> Yes No

Yes

> 13 5.08. Not unjustly prevent a subordinate from taking a better

> job for which that subordinate is qualified or experienced.

>

> Replace with

> 5.08 Not unjustly prevent a subordinate from taking a better

> job when the subordinate is qualified for the job.

>

> Yes No

Yes

> 15 7.02. Review the work of other software engineers, which is

> not in the public domain, only with their prior knowledge,

> provided this is consistent with safety.

>

> Replace with

> 7.02 If another software engineer's work is not in the public

> domain, review that work only with the appropriate permission

> provides this is consistent with public health, safety, and welfare.

> Yes No

No; but I like the last line of the new one better. I suggest:

7.02. Review the work of other software engineers, which is
not in the public domain, only with their prior knowledge,
provided this is consistent with public health, safety, and welfare.

> 17 7.08. Not take steps to supplant another software engineer

> after steps have been taken for employment

>

> Replace with

> 7.08 Don't try to undermine another software engineer's job

> prospects or firm offer for your own personal gain,

> Yes No

Yes! (Thank you.)

> 18 8.08. Consider violations of this code inconsistent with being a
> professional software engineer.
> Add
> "and we must do all we can to help our colleagues meet these
> guidelines"
> Yes No

No. Instead add:

"and help our colleagues meet these guidelines."

Note that the proposed change doesn't even fit in grammatically with the last phrase of Principle 8:, namely, "...software engineers shall continually endeavor to:". That is to say, the last phrase in the body of any of the principles is really the beginning of the sentence that is completed by each of the numbered items after the body of the principle. So read the last line in the body of any of the principles and follow that with any of the numbered (e.g., 8.08) items. The result should be a complete, grammatically-correct sentence. Something to check in the other principles?

Thanks!

=====
===

Major Mark A. Kanko | Comm: 937-255-3636 ext 4557
Assist. Dean for Academic Affairs | DSN: 785-3636 ext 4557
Graduate School of Engineering | Fax: 937-656-7302
Air Force Institute of Technology |
<http://www.afit.af.mil/Schools/EN>

From: Mechler, Edmund
Sent: Friday, August 08, 1997 10:07 AM
To: 'SEEPP LIST'
Subject: FW: Decisions to be made: SE Code

Don
My return did not have the underline so I am resending
leaving in my answers.

From: Mechler, Edmund
Sent: Friday, August 08, 1997 10:40 AM
To: Multiple recipients of list PRFCMP-L

Subject: Re: Decisions to be made: SE Code

Don

Yes I do want my name associated with the code in both publications. You may consider using titles(only a suggestion) to further validate the code. Mine is:

Ed Mechler, CCP

I have e-mailed people in the business with the web pages to review and wrote "letters to the editor" for industry magazines. Will version 3 still be on the web page?? Some of the people I e-mailed said they would get back to me instead of the e-mail on the web page, don't know why, but I only have one so far, for your review:

i scanned the code of ethics. overall, it looks helpful.
several comments:

free of error?

for many systems, that is not a cost-effective goal.

for all systems, it is probably unattainable.

must have specs?

for some projects, that would be a mistake.

good methodology choice?

most se's don't have control over this

ensure realistic estimates on projects?

again, most se's don't have control over this

Pete Coad coad@oi.com

This is the first time I read the code for a while and I have a suggestions for your consideration. In 8.01 we seem to have left out "analysis/requirements" to keep up with. We seem to have all of the life cycle except for the beginning.

Below are the answers to your survey about suggested changes. I have underlined my responses.

Ed

>-----

>---

>GENERAL QUESTION

>1. Replace the word "assure" with the stronger word "ensure"

> replace all occurrences in the Preamble

> Yes

>

> replace all occurrences in the Principles
> yes
>
>QUESTIONS ABOUT THE PRINCIPLES
>
>
>2. 1.02. Strive to understand fully the specifications
> for software on which they work.
> Replace with
>
> 1.02. Strive to fully understand the specifications
> for software on which they work.
> Yes
>
>3 1.12 Delete, whenever appropriate, outdated or
> flawed data.
> Replace with
>
> 1.12 Whenever appropriate, delete outdated or
> flawed data.
> Yes
>
>4. Add 1.13 "related to any work project" at the end of the
> sentence.
> Yes
>
>5. 2.01 Disclose to appropriate persons or authorities any actual
> or potential danger that they reasonably believe to be associated
> with the software or related documents on which they work, or
> are aware of, may pose to the user, a third party, or the
> environment.
> Replace with
>
> 2.01 Disclose to appropriate persons or authorities any actual or
> potential danger to the user, a third party, or the environment that
> they reasonably believe to be associated with software or related
> documents for which they are responsible, or merely know about.
> Yes
>
>6. Several comments on this one
>6a 2.08 Is "feel free" to open-ended and non-committal?
> It doesn't make it seem as if there is any obligation in this regard.
>
> Replace with "Donate professional skills to good causes when
> opportunities arise."
> Yes

>

>6b 2.08 Add "and contribute to public education with respect to the discipline."

> Yes

>

>7. 3.07 replace "Participate in no.." with "Refuse to participate in."

> Yes

>

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>

> Because it reads as though it is otherwise OK to use illegally obtained software!

>

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> 4.04. "Not knowingly use illegally obtained or retained software."

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>9. In 4.09.. the unless ethical consideration demand otherwise."

>

> Replace with

> "unless a higher ethical concern is being compromised; then in that case the employer should be informed of the engineer's ethical concern."

> Yes

>

>10 5.03. Assign work only after taking into account appropriate contributions of education and experience.

>

> Add

> "tempered by a desire to further the education and experience of employees"

> Yes

>

>11 5.05. Develop a fair agreement concerning ownership of any software artifact to which an employee has contributed.

>

> Only "software artifacts"? What about other intellectual property?

>

> Replace

> "Software artifact" with "computer-related artifact"

> Yes

>

>12 5.07. Offer only fair and just remuneration.
> Delete only'.
> No
>
>13 5.08. Not unjustly prevent a subordinate from taking a better
> job for which that subordinate is qualified or experienced.
>
> Replace with
> 5.08 Not unjustly prevent a subordinate from taking a better
> job when the subordinate is qualified for the job.
>
> Yes
>
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> not in the public domain, only with their prior knowledge,
> provided this is consistent with safety.
>
> Replace with
> 7.02 If another software engineer's work is not in the public
> domain, review that work only with the appropriate permission
> provides this is consistent with public health, safety, and welfare.
> No
>
>17 7.08. Not take steps to supplant another software engineer
> after steps have been taken for employment
>
>Replace with
> 7.08 Don't try to undermine another software engineer's job
> prospects or firm offer for your own personal gain,
> Yes
>
>18 8.08. Consider violations of this code inconsistent with being a
> professional software engineer.
> Add
> "and we must do all we can to help our colleagues meet these
> guidelines"
> No

Maybe add another one with this comment in it.

>-----
>
>

From: Mechler, Edmund

Sent: Friday, August 08, 1997 9:40 AM
To: 'Professional Competence Standards Task Force'
Subject: RE: Decisions to be made: SE Code

Don

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Ed Mechler, CCP

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Pete Coad coad@oi.com

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Below are the answers to your survey about suggested changes. I have underlined my responses.

Ed

GENERAL QUESTION

1. Replace the word "assure" with the stronger word "ensure"
replace all occurrences in the Preamble

Yes no

replace all occurrences in the Principles
yes no

QUESTIONS ABOUT THE PRINCIPLES

2. 1.02. Strive to understand fully the specifications
 for software on which they work.

Replace with

1.02. Strive to fully understand the specifications
for software on which they work.

Yes no

- 3 1.12 Delete, whenever appropriate, outdated or
 flawed data.

Replace with

1.12 Whenever appropriate, delete outdated or
flawed data.

Yes No

4. Add 1.13 "related to any work project" at the end of the
sentence.

Yes No

5. 2.01 Disclose to appropriate persons or authorities any actual
or potential danger that they reasonably believe to be associated
with the software or related documents on which they work, or
are aware of, may pose to the user, a third party, or the
environment.

Replace with

2.01 Disclose to appropriate persons or authorities any actual or
potential danger to the user, a third party, or the environment that
they reasonably believe to be associated with software or related
documents for which they are responsible, or merely know about.

Yes No

6. Several comments on this one

- 6a 2.08 Is "feel free" to open-ended and non-committal?

It doesn't make it seem as if there is any obligation in this regard.

Replace with "Donate professional skills to good causes when
opportunities arise."

Yes No

- 6b 2.08 Add "and contribute to public education with respect to the discipline."

Yes No

7. 3.07 replace "Participate in no.." with "Refuse to participate in."

Yes No

- 8 Replace 4.04. Not knowingly use illegally obtained or retained software on equipment of a client or employer or in work performed for a client or employer.

Because it reads as though it is otherwise OK to use illegally obtained software!

Replace with

4.04. "Not knowingly use illegally obtained or retained software."

Yes No

9. In 4.09.. the unless ethical consideration demand otherwise."

Replace with

"unless a higher ethical concern is being compromised; then in that case the employer should be informed of the engineer's ethical concern."

Yes No

- 10 5.03. Assign work only after taking into account appropriate contributions of education and experience.

Add

"tempered by a desire to further the education and experience of employees"

Yes No

- 11 5.05. Develop a fair agreement concerning ownership of any software artifact to which an employee has contributed.

Only "software artifacts"? What about other intellectual property?

Replace

"Software artifact" with "computer-related artifact"

Yes No

- 12 5.07. Offer only fair and just remuneration.

Delete only'.

Yes No

- 13 5.08. Not unjustly prevent a subordinate from taking a better job for which that subordinate is qualified or experienced.

Replace with

5.08 Not unjustly prevent a subordinate from taking a better job when the subordinate is qualified for the job.

Yes No

- 15 7.02. Review the work of other software engineers, which is not in the public domain, only with their prior knowledge, provided this is consistent with safety.

Replace with

7.02 If another software engineer's work is not in the public domain, review that work only with the appropriate permission provides this is consistent with public health, safety, and welfare.

Yes No

- 17 7.08. Not take steps to supplant another software engineer after steps have been taken for employment

Replace with

7.08 Don't try to undermine another software engineer's job prospects or firm offer for your own personal gain,

Yes No

- 18 8.08. Consider violations of this code inconsistent with being a professional software engineer.

Add

"and we must do all we can to help our colleagues meet these guidelines"

Yes No

Maybe add another one with this comment in it.

From: Don Gotterbarn[SMTP:gotterba@SEASVA.GWU.EDU]

Sent: Thursday, August 07, 1997 11:35 AM

To: Multiple recipients of list PRFCMP-L
Subject: Decisions to be made: SE Code

Dear Task Force Member,

There have been several responses to version 2.1 of the draft Software Engineering Code. Most of them have been quite favourable. In Corfu, the International federation of Information Processing Working Group 9 viewed the code quite positively.

You have all worked quite hard on this project and now I need two more things from you. It is time to develop version 3 of the Code. Below is a survey to solicit your opinions about the suggested changes to version 2.1. We are on a tight schedule so please vote yes or no. If you don't like a phrase then please suggest a better one.

Version 3 of the Code is scheduled to be printed in IEEE Computer in October and the Communications of the ACM in November. The function of the publication is to solicit opinions on the Code from the memberships of the two societies. I need a positive response from each of you that you want your name associated with the code and listed officially in these publications as part of the task force that developed the code. If I don't receive a positive response from you that you want your name listed then it will not be included in the list.

>From all the comments I have received, you can be proud of your work on this!!!

Thanks!

Don

GENERAL QUESTION

1. Replace the word "assure" with the stronger word "ensure"
replace all occurrences in the Preamble
Yes no

replace all occurrences in the Principles
yes no

QUESTIONS ABOUT THE PRINCIPLES

2. 1.02. Strive to understand fully the specifications
for software on which they work.

Replace with

1.02. Strive to fully understand the specifications
for software on which they work.

Yes no

- 3 1.12 Delete, whenever appropriate, outdated or
 flawed data.

Replace with

1.12 Whenever appropriate, delete outdated or
flawed data.

Yes No

4. Add 1.13 "related to any work project" at the end of the
 sentence.

Yes No

5. 2.01 Disclose to appropriate persons or authorities any actual
or potential danger that they reasonably believe to be associated
with the software or related documents on which they work, or
are aware of, may pose to the user, a third party, or the
environment.

Replace with

2.01 Disclose to appropriate persons or authorities any actual or
potential danger to the user, a third party, or the environment that
they reasonably believe to be associated with software or related
documents for which they are responsible, or merely know about.

Yes No

6. Several comments on this one

- 6a 2.08 Is "feel free" to open-ended and non-committal?

It doesn't make it seem as if there is any obligation in this regard.

Replace with "Donate professional skills to good causes when
opportunities arise."

Yes No

- 6b 2.08 Add "and contribute to public education with respect to the
discipline."

Yes No

7. 3.07 replace "Participate in no.." with "Refuse to participate in."

Yes No

- 8 Replace 4.04. Not knowingly use illegally obtained or retained software on equipment of a client or employer or in work performed for a client or employer.

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Replace with

4.04. "Not knowingly use illegally obtained or retained software."

Yes No

9. In 4.09.. the unless ethical consideration demand otherwise."

Replace with

"unless a higher ethical concern is being compromised; then in that case the employer should be informed of the engineer's ethical concern."

Yes No

- 10 5.03. Assign work only after taking into account appropriate contributions of education and experience.

Add

"tempered by a desire to further the education and experience of employees"

Yes No

- 11 5.05. Develop a fair agreement concerning ownership of any software artifact to which an employee has contributed.

Only "software artifacts"? What about other intellectual property?

Replace

"Software artifact" with "computer-related artifact"

Yes No

- 12 5.07. Offer only fair and just remuneration.

Delete only'.

Yes No

- 13 5.08. Not unjustly prevent a subordinate from taking a better job for which that subordinate is qualified or experienced.

Replace with

5.08 Not unjustly prevent a subordinate from taking a better

job when the subordinate is qualified for the job.

Yes No

- 15 7.02. Review the work of other software engineers, which is not in the public domain, only with their prior knowledge, provided this is consistent with safety.

Replace with

7.02 If another software engineer's work is not in the public domain, review that work only with the appropriate permission provides this is consistent with public health, safety, and welfare.

Yes No

- 17 7.08. Not take steps to supplant another software engineer after steps have been taken for employment

Replace with

7.08 Don't try to undermine another software engineer's job prospects or firm offer for your own personal gain,

Yes No

- 18 8.08. Consider violations of this code inconsistent with being a professional software engineer.

Add

"and we must do all we can to help our colleagues meet these guidelines"

Yes No

DRAFT SOFTWARE ENGINEERING CODE OF ETHICS

PREAMBLE v (2.last)

Computers now have a central and growing role in commerce, industry, government, medicine, education, entertainment, social affairs, and ordinary life. Those who contribute, by direct participation or by teaching, to the design and development of software systems have significant opportunities both to do good or to cause harm, and to influence and enable others to do good or cause harm. To assure, as much as possible, that this power will be used for good, software engineers must commit themselves to making the design and development of software a beneficial and respected profession. In accordance with that commitment, software engineers shall adhere to the following Code of Ethics.

The Code contains eight Principles related to the behavior of and decisions made by professional software engineers, be they practitioners, educators, managers and supervisors, or policy makers, as well as trainees and students of the profession. The Principles identify the various relationships in which individuals, groups, and organizations participate and the primary obligations within these relationships.

Each Principle of this code addresses three levels of ethical obligation owed by professional software engineers in each of these relationships. The first level identified is a set of ethical values, which professional software engineers share with all other human beings by virtue of their humanity. The second level obliges software engineering professionals to more challenging obligations than those required at level one. Level two obligations are required because professionals owe special care to people affected by their work. The third and deeper level comprises several obligations which derive directly from elements unique to the professional practice of software engineering. The Clauses of each Principle are illustrations of the various levels of obligation included in that relationship.

The Clauses under each Principle consist of three different types of statement corresponding to each level. Level One: Aspire (to be human); statements of aspiration provide vision and objectives and are intended to direct professional behavior. These directives require significant ethical judgement. Level Two: Expect (to be professional); Statements of expectation express the obligations of all professionals and professional attitudes. Again, they do not describe the specific behavior details, but they clearly indicate professional responsibilities in computing. Level Three: Demand (to use good practices); statements of demand assert more specific behavioral responsibilities within software engineering, which are more closely related to the current state of the art. The range of statements is from the more general aspirational statement to specific measurable requirements.

Although all three levels of professional obligation are recognized, the Code is not intended to be all inclusive, nor is it intended that its individual parts be used in isolation to justify errors of omission or commission. The list of Principles and Clauses is not exhaustive, and should not be read as separating the acceptable from the unacceptable in professional conduct in all practical situations. The Code is not a simple ethical algorithm which generates ethical decisions. In some situations standards may conflict with each other or with standards from other sources. These situations require the software engineer to use ethical judgement to act in a manner which is most consistent with the spirit of

the Code of Ethics, given the circumstances.

These ethical tensions can best be addressed by thoughtful consideration of fundamental principles, rather than reliance on detailed regulations. These Principles should influence you to consider broadly who is affected by your work; to examine if you and your colleagues are treating other human beings with due respect; to speculate on how the public would view your decision if they were reasonably well informed; to analyze how the least empowered will be affected by your decision; and to consider if your acts would be considered worthy of the ideal professional working as a software engineer. Since this code represents a consensus of those engaged in the profession one should take into account what is likely to be judged as the most ethical way to act in the circumstances by informed, respected, and experienced peers in possession of all the facts and only depart from such a course for profound reasons, backed with careful judgement.

The dynamic and demanding context of software engineering requires a code that is adaptable and relevant to new situations as they occur. However even in this generality, the code provides support for the software engineer who needs to take positive action by documenting the ethical stance of the profession; it provides an ethical foundation to which individuals within teams and the team as a whole can appeal. The code also helps to define those things which are ethically improper to request of an software engineer.

The code has an educational function, stating what is required of anyone wishing to join or continue in the software engineering community. Because it expresses the consensus of the profession on ethical issues, it can be used as a guide to decision making and as means to educate both the public and aspiring professionals about the professional obligation of all software engineers.

PRINCIPLES v 2.last

Principle 1: PRODUCT. Software engineers shall, insofar as possible, assure that the software on which they work is useful and of acceptable quality to the public, the employer, the client, and the user; completed on time and at reasonable cost; and free of error. In particular, software engineers shall, as appropriate:

- 1.01. Ensure that specifications for software on which they work have been well documented, satisfy the user's requirements, and have the client's approval.
- 1.02. Strive to understand fully the specifications for software on

which they work.

- 1.03. Ensure that they are qualified, by an appropriate combination of education and experience, for any project on which they work or propose to work.
- 1.04. Ensure proper and achievable goals and objectives for any project on which they work or propose.
- 1.05. Ensure an appropriate methodology for any project on which they work or propose to work.
- 1.06. Ensure good management for any project on which they work, including effective procedures for promotion of quality and reduction of risk.
- 1.07. Ensure realistic estimates of cost, scheduling, personnel, and outcome on any project on which they work or propose to work and provide a risk assessment of these estimates.
- 1.08. Ensure adequate documentation on any project on which they work, including a log of problems discovered and solutions adopted.
- 1.09. Ensure adequate testing, debugging, and review of software and related documents on which they work.
- 1.10. Work to develop software and related documents that respect the privacy of those who will be subjected to that software.
- 1.11. Be careful to use only accurate data derived from legal sources, and use only in ways properly authorized.
- 1.12. Delete, whenever appropriate, outdated or flawed data.
- 1.13. Work to identify, define and address ethical, economic, cultural, legal, and environmental issues.
- 1.14. Promote maximum quality and minimum cost to the employer, the client, the user and the public. Make any tradeoffs clear to all parties concerned.
- 1.15. Work to follow industry standards that are most appropriate for the task at hand, departing from these only when technically justified.

Principle 2: PUBLIC. Software engineers shall, in their professional role, act only in ways consistent with the public safety, health and welfare. In particular, software engineers shall:

- 2.01. Disclose to appropriate persons or authorities any actual or potential danger that they reasonably believe to be associated with the software or related documents on which they work, or are aware of, may pose to the user, a third party, or the environment.
- 2.02. Approve software only if they have a well-founded belief that it is safe, meets specifications, has passed appropriate tests, and does not diminish quality of life or harm the environment.
- 2.03. Affix their signature only to documents prepared under their supervision or within their areas of competence and with

which they are in agreement.

- 2.04. Co-operate in efforts to address matters of grave public concern caused by software or related documents.
- 2.05. Endeavor to produce software that respects diversity. Issues of language, different abilities, physical access, mental access, economic advantage, and allocation of resources should all be considered.
- 2.06. Be fair and truthful in all statements, particularly public ones, concerning software or related documents.
- 2.07. Not put self-interest, the interest of an employer, the interest of a client, or the interest of the user ahead of the public's interest.
- 2.08. Feel free to donate professional skills to good causes.
- 2.09. Accept full responsibility for their own work.

Principle 3: JUDGMENT. Software engineers shall, insofar as possible and consistent with Principle 2, protect both the independence of their professional judgment and their reputation for such judgment. In particular, software engineers shall, as appropriate:

- 3.01. Maintain professional objectivity with respect to any software or related documents they are asked to evaluate.
- 3.02. Affix their signature only to documents prepared under their supervision and within their areas of competence.
- 3.03. Reject bribery.
- 3.04. Accept no payback, kickback, or other payment from a third party to a contract, except with the knowledge and consent of all parties to the contract.
- 3.05. Accept payment from only one party for any particular project, or for services specific to that project, except when the circumstances have been fully disclosed to parties concerned and they have given their informed consent.
- 3.06. Disclose to all concerned parties those conflicts of interest that cannot reasonably be avoided or escaped and aspire to resolve them.
- 3.07. Participate in no decision of a governmental or professional body, as a member or advisor, concerned with software, or related documents, in which they, their employer, or their client have a financial interest.
- 3.08. Temper all technical judgements by the need to support and maintain human values.

PRINCIPLE 4: CLIENT AND EMPLOYER. Software engineers shall, consistent with the public health, safety, and welfare, always act in professional matters as faithful agents and trustees of their client or employer. In particular, software engineers shall:

- 4.01. Provide service only in areas of their competence.
- 4.02. Assure that any document upon which they rely has been approved by someone authorized to approve it.
- 4.03. Use the property of a client or employer only in ways properly authorized, and with the client's or employer's knowledge and consent.
- 4.04. Not knowingly use illegally obtained or retained software on equipment of a client or employer or in work performed for a client or employer.
- 4.05. Keep as confidential information gained in their professional work that is not in the public domain (and is not inconsistent), where such confidentiality is consistent with matters of public concern.
- 4.06. Identify, document, and report to the employer or the client any problems or matters of social concern in the software or related documents on which they work or of which they are aware.
- 4.07. Inform the client or the employer promptly if, in their opinion, a project is likely to fail, to prove too expensive, to violate intellectual property legislation, in particular copyright, patent, and trademarks, or otherwise be problematic.
- 4.08. Accept no outside work detrimental to the work they perform for their primary employer.
- 4.09. Represent no interest adverse to their employer's without the employer's specific consent, unless ethical considerations demand otherwise.

Principle 5 MANAGEMENT. A software engineer in a management or leadership capacity shall act fairly and shall enable and encourage those who they lead to meet their own and collective obligations, including those under this code. In particular, those software engineers in leadership roles shall as appropriate:

- 5.01. Assure that employees are informed of standards before being held to them.
- 5.02. Assure that employees know the employer's policies and procedures for protecting passwords, files, and other confidential information.
- 5.03. Assign work only after taking into account appropriate contributions of education and experience.
- 5.04. Provide for due process in hearing charges of violation of an employer's policy or of this code.
- 5.05. Develop a fair agreement concerning ownership of any software artifact to which an employee has contributed.
- 5.06. Attract employees only by full and accurate description of the conditions of employment.
- 5.07. Offer only fair and just remuneration.

- 5.08. Not unjustly prevent a subordinate from taking a better job for which that subordinate is qualified or experienced.
- 5.09. Not ask an employee to do anything inconsistent with this code.

Principle 6: PROFESSION. Software engineers shall, in all professional matters, advance both the integrity and reputation of their profession as is consistent with public health, safety, and welfare. In particular, software engineers shall, insofar as possible:

- 6.01. Associate only with reputable businesses and organizations.
- 6.02. Assure that clients, employers, and supervisors know of the software engineer's commitment to this code of ethics, and their own responsibility under it.
- 6.03. Support those who similarly do as this code requires.
- 6.04. Help develop an organizational environment favorable to acting ethically.
- 6.05. Report anything reasonably believed to be a violation of this code to appropriate authorities.
- 6.06. Take responsibility for detecting, correcting, and reporting errors in software and associated documents on which they work.
- 6.07. Only accept remuneration appropriate to professional qualifications or experience.
- 6.08. Be accurate in stating the characteristics of software on which they work, avoiding not only false claims but claims that might reasonably be supposed to be deceptive, misleading, or doubtful.
- 6.09. Not promote their own interest at the expense of the profession.
- 6.10. Obey all laws governing their work, insofar as such obedience is consistent with the public health, safety, and welfare.
- 6.11. Exercise professional responsibility to society by constructively serving in civic affairs.
- 6.12. Promote public knowledge of software engineering.
- 6.13. Share useful software-related knowledge, inventions, or discoveries with the profession, for example, by presenting papers at professional meetings, by publishing articles in the technical press, and by serving on the profession's standard-setting bodies.

Principle 7: COLLEAGUES. Software engineers shall treat all those with whom they work fairly and take positive steps to support collegial activities. In particular, software engineers shall, as appropriate:

- 7.01. Assist colleagues in professional development.
- 7.02. Review the work of other software engineers, which is not in the public domain, only with their prior knowledge, provided

- this is consistent with safety.
- 7.03. Credit fully the work of others.
 - 7.04. Review the work of others in an objective, candid, and properly-documented way.
 - 7.05. Give a fair hearing to the opinion, concern, or complaint of a colleague.
 - 7.06. Assist colleagues in being fully aware of current standard work practices including policies and procedures for protecting passwords, files, security measures in general, and other confidential information.
 - 7.07. Not interfere in the professional career progression of any colleague.
 - 7.08. Not take steps to supplant another software engineer after steps have been taken for employment.
 - 7.09. In situations outside of their own areas of competence, call upon the opinions of other professionals who have competence in that area.

Principle 8: SELF. Software engineers shall, throughout their career, strive to enhance their own ability to practice their profession as it should be practiced. In particular, software engineers shall continually endeavor to:

- 8.01. Further their knowledge of developments in the design, development, and testing of software and related documents, together with the management of the development process.
- 8.02. Improve their ability to create safe, reliable, and useful quality software at reasonable cost and within a reasonable time.
- 8.03. Improve their ability to write accurate, informative, and literate documents in support of software on which they work.
- 8.04. Improve their understanding of the software and related documents on which they work and of the environment in which they will be used.
- 8.05. Improve their knowledge of the law governing the software and related documents on which they work.
- 8.06. Improve their knowledge of this code, its interpretation, and its application to their work.
- 8.07. Not require or attempt to influence any person to take any action which involves a breach of this code.
- 8.08. Consider violations of this code inconsistent with being a professional software engineer.

This draft Code was developed by the ACM/IEEE-CS joint task force on Software Engineering Ethics and Professional Practices: Donald Gotterbarn Chair; Keith Miller and Simon Rogerson, Executive

Committee; Members: Peter Barnes, Steve Barber esq., IleneBurnstein, Amr El-Kadi, N.Ben Fairweather, Milton Fulghum, N. Jayaram, Tom Jewett, Maj. Mark Kanko, Ernie Kallman, Duncan Langford, Joyce Currie Little, Ed Mechler, Manuel J. Norman, Douglas Phillips, Peter Ron Prinzivalli, Patrick Sullivan, John Weckert, S.Weisband, and Laurie Honour Werth,

Please send comments on this draft of the Preamble and the Code to Donald Gotterbarn, Computer and Information Sciences, East Tennessee State University, Box 70711, Johnson City Tennessee, 37614-0711,(d.gotterbarn@computer.org.) or respond on the on the IEEE-CS and ACM web sites <http://www.acm.org>, <http://computer.org/tab/seprof>

^^

)))))) New Email and Phone Number (((((((
----> Please Update Your Records <-----

Don Gotterbarn gotterba@etsu-tn.edu 001 (423) 439-6849
^^

Professor, Computer and Information Sciences
East Tennessee State University
Box 70711
Johnson City, TN 37614-0711
USA
Fax 001 (423) 461-7119

From: Max Vrugt[SMTP:VRUGT@KGNVMC.VNET.IBM.COM]
Sent: Monday, June 23, 1997 2:24 PM
To: Mechler, Edmund
Subject: SE Code of Ethics

Ref: Your note of Mon, 23 Jun 1997 14:40:12 -0400

Ed, I tried another system and it worked! Mysterious computers.
I'll print it and comment.
Thanks, Max

From: Mechler, Edmund
Sent: Monday, June 23, 1997 1:40 PM

To: 'Max Vrugt'
Subject: RE: SE Code of Ethics

Max

I tried both on netscape plus www.computer.org and
they work
Ed

From: Max Vrugt[SMTP:VRUGT@KGNVMC.VNET.IBM.COM]
Sent: Monday, June 23, 1997 2:25 PM
To: Mechler, Edmund
Subject: SE Code of Ethics

Ref: Your note of Thu, 19 Jun 1997 11:33:12 -0400 (attached)

Ed,
Netscape cannot find www.computer.org
Are you sure that's the correct name?
Max

----- Note follows -----
Received: from ns.eqt.com by vnet.IBM.COM (IBM VM SMTP V2R3) with TCP;
Thu, 19 Jun 97 11:34:50 EDT
Received: from navajo.eqt.com (navajo.eqt.com [10.1.0.20]) by ns.eqt.com (8.7.5/8.7.3)
with ESMTP id LAA24058 for
<vrugt@kgnvmc.vnet.ibm.com>; Thu, 19 Jun 1997 11:21:46 -0400 (EDT)
From: EMechler@eri.eqt.com
Received: from erixchange.eqt.com (msx.eqt.com [10.1.0.70]) by navajo.eqt.com
(8.7.5/8.7.3) with SMTP id LAA24205 for
<vrugt@kgnvmc.vnet.ibm.com>; Thu, 19 Jun 1997 11:28:57 -0400 (EDT)
Received: by erixchange.eqt.com with SMTP (Microsoft Exchange Server Internet Mail
Connector Version 4.0.993.5)
id <01BC7CA4.92C5D250@erixchange.eqt.com>; Thu, 19 Jun 1997 11:33:13 -
0400
Message-ID: <c=US%a=_%p=EQT%l=ERIXCHANGE-970619153312Z-
4620@erixchange.eqt.com>
To: <baysys@online.dct.com>, <Joe.Linzmeyer@LaCrosse.NMT.Com>,
<jccronin@ix.netcom.com>, <sdemerr@wpsr.com>,
<richard-lopez@mayoung.com>, <coad@oi.com>
To: <vrugt@kgnvmc.vnet.ibm.com>, <john.gogniat@east.sun.com>
Subject: SE Code of Ethics
Date: Thu, 19 Jun 1997 11:33:12 -0400
X-Mailer: Microsoft Exchange Server Internet Mail Connector Version 4.0.993.5
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Content-Transfer-Encoding: 7bit

The IEEE CS and ACM formed a steering committee to make Software Engineering a profession. The first web address below describes the work to date. The second web page has the proposed Code of Ethics. Can you review the code and pass on any comments to the e-mail listed? Also pass this e-mail on to other software people, internal or external.

<http://www.computer.org/tab/seprof/index.htm>

<http://www.computer.org/tab/seprof/code.htm>

Ed

From: Mechler, Edmund
Sent: Thursday, June 19, 1997 9:45 AM
To: 'Donald Gotterbarn'
Subject: RE: Test

I have my son at Vanguard passing the code around and I am sending e-mail to SEs at ERI. Maybe the task force should send to friends etc.
Ed

From: Donald Gotterbarn[SMTP:dgot@dmu.ac.uk]
Sent: Thursday, June 19, 1997 10:35 AM
To: Mechler, Edmund
Subject: RE: Test

I got both message, and we haven't received any comments yet. The access through the ACM web page is much easier. It is actually a pointer to the IEEE-CS page.

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Thursday, June 19, 1997 9:32 AM
To: Multiple recipients of list PRFCMP-L
Subject: Its out there.

Sorry to have been slow about this. The Draft code is out for comment in several domains.

It is on the ACM web site www.acm.org in the serving the community area.

It is, as Ed indicated, on the IEEE web site, but somewhat hard to find.

It has been published in the June issue of the SIGCAS Newsletter and is coming out in the SIGSOFT newsletter.

It should also be out soon in the TCSE-IEEE newsletter. I believe this is the largest IEEE-Computer society technical group.

All of these presentations ask for comments. There have been no responses yet. We will organize the comments when they start to come in and present them to the task force for discussion and vote. We have not had any new comments from any steering committee member.

Not much else new.

don

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Mechler, Edmund
Sent: Thursday, June 19, 1997 9:26 AM
To: 'Donald Gotterbarn'
Subject: RE: Test

Don

Did you receive the e-mail I sent from the web page or the one I sent through the distribution list?

I couldn't find a reference on IEEE CS home page so I search on ethics.

The CS pages are so numerous people may never see the Code. Have you received any comments yet?

Ed

From: Donald Gotterbarn[SMTP:dgot@dmu.ac.uk]
Sent: Thursday, June 19, 1997 10:04 AM
To: Mechler, Edmund
Subject: Re: Test

Ed,
I received you email. I now have at least three email addresses all of which find me where ever I am. Thanks for remindind me about the web site. I will send a message to the group.

don

*****TEMPORARY ADDRESS CHANGE*****
Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Mechler, Edmund
Sent: Thursday, June 19, 1997 8:37 AM
To: 'SEEPP LIST'
Subject: Code on Net

<http://www.computer.org/tab/seprof/index.htm>

<http://www.computer.org/tab/seprof/code.htm>

I do not know if I missed an e-mail reporting the placement of the code on the net. The top web address is for the committee which leads to the code and the bottom is the code.

Ed

From: Mechler, Edmund
Sent: Thursday, June 19, 1997 8:18 AM
To: 'd.gotterbarn@computer.org'
Subject: Test

Don

This is a test from ethics page on IEEE.

The address for you was old and I wanted to see if you are getting any comments.

Let me know if you get this e-mail?

Ed

From: Mechler, Edmund

Sent: Monday, April 28, 1997 10:24 AM

To: 'SEEPP LIST'

Subject: FW: database

From: Mechler, Edmund

Sent: Monday, April 28, 1997 11:22 AM

To: 'Professional Competence Standards Task Force'

Subject: RE: database

Here is the info you wanted.

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]

Sent: Thursday, April 24, 1997 6:50 AM

To: Multiple recipients of list PRFCMP-L

Subject: database

The steering committee maintains a database of all members of the taskforces. I have received the request below to update the database. Please fill out the form and send it to ME at dgot@dmu.ac.uk.

Also check and confirm the spelling of your name, because it will appear in print as a member of the task force that developed the code. (Also if you want to have your name removed from the list and want to disassociate yourself from the code, please do so now. And your name will be removed from the list.)

>This Code was developed by the ACM/IEEE-CS joint task force on
>Software Engineering Ethics and Professional Practices Task Force :
>Donald Gotterbarn Chair; Keith Miller and Simon Rogerson, Executive
>Committee; Members: Peter Barnes, Steve Barber esq., C.S. Burnstein,

>Amr El_Kadi, N. Ben Fairweather, Milton Fulghum, N. Jayaram, Tom
>Jewett, Maj. Mark A. Kanko, Ernie Kallman, Duncan Langford, Joyce
>Currie Little, Ed Mechler, Manny Norman, Douglas Phillips, Peter
>Prinzivalli, Mary Prior, Patrick Sullivan, John Weckert, S.Weisband,
>and Laurie Werth,

Don,

Could you send me a list of addresses (Snail and Email), phones, FAXes,
etc. for all the people mentioned above?. My database is a bit dated and I
have about half of the names and even these might be obsolete :-(

Thanks,

Mario

=====Form SEEPP Member

Name-----Ed Mechler, CCP

addreess--Equitable Resources, Inc
(snail) 420 Blvd. of the Allies MS 8-3
Pittsburgh, Pa. 15219

Email --emechler@eri.eqt.com

Phone ----412 553 6144

Fax -----412 553 5970

From: Mechler, Edmund
Sent: Monday, April 28, 1997 10:22 AM
To: 'Professional Competence Standards Task Force'
Subject: RE: database

Here is the info you wanted.

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Thursday, April 24, 1997 6:50 AM
To: Multiple recipients of list PRFCMP-L
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>Jewett, Maj. Mark A. Kanko, Ernie Kallman, Duncan Langford, Joyce
>Currie Little, Ed Mechler, Manny Norman, Douglas Phillips, Peter
>Prinzivalli, Mary Prior, Patrick Sullivan, John Weckert, S.Weisband,
>and Laurie Werth,

Don,

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Thanks,

Mario

=====Form SEEPP Member

Name-----Ed Mechler, CCP

addreess--Equitable Resources, Inc
(snail) 420 Blvd. of the Allies MS 8-3
Pittsburgh, Pa. 15219

Email --emechler@eri.eqt.com

Phone ----412 553 6144

Fax -----412 553 5970

From: Duncan Langford[SMTP:D.Langford@UKC.AC.UK]

Sent: Thursday, April 24, 1997 8:07 AM

To: Multiple recipients of list PRFCMP-L

Subject: Re: database

> The steering committee mainmtains a database of all members of the
> taskforces. I have received the request below to update the database.
> Please fill out the form and send it to ME at dgot@dmu.ac.uk.
>
> Also check and confirm the spelling of your name, because it will appear
> in print as a member of the task force that developed the code. (Also if
> you want to have your name removed from the list and want to disassociate
> yourself from the code, please do so now. And your name will be removed
> from the list.)

=====Form SEEPP Member

Name Duncan Langford

address Computing Laboratory, University of Kent at Canterbury
(snail) Canterbury, Kent CT2 7NF England

Email D.Langford@ukc.ac.uk

Phone +44 1227 823867

Fax +44 1227 762811

=====

- duncan

Laurie Honour Werth
Department of Computer Sciences
The University of Texas at Austin
Austin, TX 78712-1188

Phone: 512-471-9535

Fax: 512-471-8885

email: lwerth@cs.utexas.edu

From: PRP1@AOL.COM[SMTP:PRP1@AOL.COM]
Sent: Friday, April 18, 1997 12:41 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Software Engineering Code of Ethics

Hi Don:

Thanks for the new Code. I'd suggest that each use of the word code be capitalized. This would specifically identify our Code and the one under discussion.

Also, how will this Code be disseminated? Will the IEEE and or ACM hold informational/training sessions as part of their conference activities? I would be willing to participate in this dissemination activity.

Again, thank you for your leadership in this major professional effort.

Best regards.

Pete

DG041897

Peter Ron Prinzivalli
IEEE Member

PS: Please use my middle name as above in the future Code dissemination.
Thanks!!

From: David Bellin[SMTP:dbellin@NCAT.EDU]

Sent: Tuesday, April 08, 1997 11:14 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Software Engineering Code of Ethics

Don,

Thanks for the update.

As to my votes, I am FOR distribution of this code in draft form for comment, both on websites and if possible in print.

As to detailed commentary, I am not in a position to provide that in a timely fashion... Sorry....

Hope you are well,

=db.

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Monday, April 07, 1997 3:41 PM
To: Multiple recipients of list PRFCMP-L
Subject: Software Engineering Code of Ethics

April 7, 1997
Dear Steering Committee:

PROJECT MANAGEMENT STATUS REPORT:

We need your response. On February 13th the SEEPP task force forwarded to you a revised code of ethics, a schedule for completing the project in a timely fashion and several supporting documents requested by Steering committee members.

In order for the SEEPP Task Force to continue to move forward we need from you,

- 1) your comments on the code,
- 2) approval for the establishment of a web site.
- 3) approval to distribute the code for comment using society journals,

We have not received any comments on the code from you, so can we presume that we are getting closer to the mark with the code and that the explanations of the changes were satisfactory?

The proposal to use the Centre for Computing and Social Responsibility as the central web site was rejected and we were told to use the IEEE

and ACM web sites. I have received no response to my request for the names of contacts at those web sites who have been advised to co-operate with this effort. Has the ACM and IEEE agreed to allow us to use their sites and if so are the contacts.

I have also requested Steering Committee permission to distribute the draft code for preliminary comment in two ACM newsletters. I requested permission to distribute the code in these newsletters in time for the publication to occur in the Summer of 1997. These newsletters have publication deadlines. The deadline for the SIGCAS Newsletter has already passed, but the editor is willing to accept the document if I can get it in by the end of this week. If we miss these deadlines, then the earliest the draft could appear would be September.

The project is at a stand still. The time specifically dedicated to this project is being used waiting for approval to move forward. Small delays now will cause large delays in the completion of the project. I know you are all quite busy, but we are simply asking permission to continue the iterative development process. We would like to distribute the preliminary code for broader review by those who will be guided by it and affected by it.

The document we are interested in circulating is attached below for your review. Thank you for your timely response.

Sincerely,

Donald Gotterbarn

p.s. There have been some modifications suggested since version 2.0. The changes are indicated by phases in upper case.

=====

===== Proposed Product for Publication=====

This draft code of ethics was developed by a task force of the Joint IEEE Computer Society and Association for Computing Machinery Steering Committee for the Establishment of Software Engineering as a Profession. The task force on Software Engineering Ethics and Professional Practices developed this code for a sub-specialization within the constituencies of both of the professional societies. In an attempt to reflect the international character of both organizations and the profession itself, the composition of the task force is multinational in both citizenship and in membership in professional computing organizations. The proposed draft Code of Ethics for Software

Engineers (version 2.0a) was developed by the task force and reviewed by the Steering Committee.

Based on the feedback from readers of this publication and from other sources, a final draft of the code will be developed and presented to the Steering Committee for approval.

SOFTWARE ENGINEERING CODE OF ETHICS v 2.0a April 1997

PREAMBLE v 2.0a

Computers now have a central and growing role in commerce, industry, government, medicine, education, entertainment, social affairs, and ordinary life. Those who contribute, by direct participation or by teaching, to the design and development of software systems have significant opportunities both to do good and to cause harm AND TO INFLUENCE AND ENABLE OTHERS TO DO GOOD OR CAUSE HARM. To assure, as much as possible, that this power will be used for good, software engineers must commit themselves to making the design and development of software a beneficial, and respected profession. In accordance with that commitment, software engineers shall adhere to the following code of ethics.

The code contains eight keyword principles related to the behavior of and decisions made by professional software engineers, be they practitioners, educators, managers and supervisors, or policy makers, as well as trainees and students of the profession. The Principles identify the various relationships in which individuals, groups, and organizations participate and the primary obligations within these relationships.

Each principle of this code addresses three levels of ethical obligation owed by professional software engineers in each of these relationships. The first level identified is a set of ethical values which they share with all other human beings by virtue of their humanity. The second level obliges professionals to a higher order of care for those WHO MAY BE Affected by their work. The third and deeper level comprises several obligations which derive directly from elements unique to the professional practice of software engineering. The clauses of each principle are illustrations of the various levels of obligation included in that relationship.

The clauses under each Principle consist of three different types of statement corresponding to each level. Level One: Aspire (to be human); Statements of aspiration provide vision and objectives, are intended to direct professional behavior. These directives require

significant ethical judgement. Level Two: Expect (to be professional); Statements of expectation express the obligations of all professionals and professional attitudes. Again they do not describe the specific behavior details but they clearly indicate professional responsibilities in computing. Level Three: Demand (to use good practices); Statements of demand assert more specific behavioral responsibilities within software engineering which are more closely related to the current state of the art. The range of statements is from the more general aspirational statement to specific measurable requirements.

Although all levels of professional obligation are recognized and because the Code contains different types of statements, the Code is not intended to be all inclusive nor is it intended that its individual parts be used in isolation to justify errors of omissions or commission. The list of Principles and Clauses is not exhaustive, and should not be read as separating the acceptable from the unacceptable in professional conduct in all practical situations. The Code is not a simple ethical algorithm which generates ethical decisions. In some situations standards may conflict with each other or with standards from other sources. These situations require the software engineer to use ethical judgement to act in a manner which is most consistent with the SPIRIT OF THE code of ethics, given the circumstances.

These ethical tensions can best be answered by thoughtful consideration of fundamental principles, rather than reliance on detailed regulations. These Principles should influence you to consider broadly who is affected by your work; to examine if YOU AND YOUR COLLEAGUES are treating other human beings with due respect; to speculate on how the public would view your decision IF THEY WERE REASONABLY WELL INFORMED; to analyze how the least empowered will be affected by your decision; and to consider if your acts would be considered worthy of the ideal PROFESSIONAL WORKING AS A software engineer. Since this code represents a consensus of those engaged in the profession one should TAKE INTO ACCOUNT WHAT IS likely to be judged as the most ethical way to act in the circumstances by informed, respected, and experienced peers in possession of all the facts AND ONLY DEPART FROM SUCH A COURSE FOR PROFOUND REASONS, BACKED WITH CAREFUL JUDGEMENT.

The dynamic and demanding context of software engineering requires a code that is adaptable and relevant to new situations as they occur. But even in this generality, the code provides support for the software engineer who needs to take positive action by documenting the ethical stance of the profession; an ethical foundation to which individuals within teams and the team as a whole can appeal. The code also helps to define those things which are ethically improper to request of an

software engineer.

The code has an educational function, stating what is required of anyone wishing to join or continue in the software engineering community. Because it expresses the consensus of the profession on ethical issues it can be used as a guide to decision making and as means to educate both the public and aspiring professionals about the professional obligation of ALL software engineers

PRINCIPLES v 2.0a

Principle 1: PRODUCT. Software engineers shall, insofar as possible, assure that the software on which they work is useful and of acceptable quality to the public, the employer, the client, and the user, completed on time and at reasonable cost, and free of error. In particular, software engineers shall, as appropriate:

- 1.01. Ensure that specifications for software on which they work have been well documented, satisfy the user's requirements, and have the client's approval.
- 1.02. Strive to understand fully the specifications for software on which they work.
- 1.03. Ensure that they are qualified, by an appropriate combination of education and experience, for any project on which they work or propose to work.
- 1.04. Ensure proper AND ACHIEVABLE goals and objectives for any project on which they work.
- 1.05. Ensure an appropriate methodology for any project on which they work or propose to work.
- 1.06. Ensure good management for any project on which they work, including effective procedures for promotion of quality and reduction of risk.
- 1.07. Ensure realistic estimates of cost, scheduling, personnel, and outcome on any project on which they work or propose to work AND PROVIDE A RISK ASSESSMENT OF THESE ESTIMATES.
- 1.08. Ensure adequate documentation on any project on which they work, including a log of problems discovered and solutions adopted.
- 1.09. Ensure adequate testing, debugging, and review of software and related documents on which they work.
- 1.10. Work to develop software and related documents that respect the privacy of those who will be subjected to that software.
- 1.11. Be careful to use only accurate data derived from legal sources and use only in ways properly authorized.
- 1.12. DELETE, WHENEVER APPROPRIATE OUTDATED OR FLAWED DATA.

- 1.13. Work to identify, define and address ethical, economic, cultural, legal, and environmental issues.
- 1.14. Promote maximum quality and minimum cost to the employer, the client, the user, and the public and make any tradeoffs clear to all parties concerned.
- 1.15. Work to follow industry standards that are most appropriate for the task at hand, departing from these only when technically justified.

Principle 2: PUBLIC. Software engineers shall, in their professional role, act only in ways consistent with the public safety, health and welfare. In particular, software engineers shall:

- 2.01. Disclose to appropriate persons or authorities any actual or potential danger that THEY REASONABLY BELIEVE TO BE ASSOCIATED WITH the software or related documents on which they work, or are aware of, may pose to the user, a third party, or the environment.
- 2.02. Approve software only if they have a well-founded belief that it is safe, meets specifications, has passed appropriate tests, and does not diminish quality of life or harm the environment.
- 2.03. Affix their signature only to documents prepared under their supervision or within their areas of competence and with which they are in agreement.
- 2.04. Co-operate in efforts to address matters of grave public concern in software or related documents.
- 2.05 ENDEAVOR TO PRODUCE SOFTWARE THAT RESPECTS DIVERSITY. ISSUES OF LANGUAGE, DIFFERENT ABILITIES, PHYSICAL ACCESS, MENTAL ACCESS, ECONOMIC ADVANTAGE, AND ALLOCATION OF RESOURCES SHOULD ALL BE CONSIDERED.
- 2.06. Be fair and truthful in all statements, particularly public ones, concerning software or related documents.
- 2.07. Not put self-interest, the interest of an employer, the interest of a client, or the interest of the user ahead of the public's interest.
- 2.08. Feel free to donate professional skills to good causes.
- 2.09. Accept full responsibility for their own work.

Principle 3: JUDGMENT. Software engineers shall, insofar as possible and consistent with Principle 2, protect both the independence of their professional judgment and their reputation for such judgment. In particular, software engineers shall, as appropriate:

- 3.01 Maintain professional objectivity with respect to any software or related documents they are asked to evaluate.
- 3.02. Affix their signature only to documents prepared under their supervision and within their areas of competence.
- 3.03. Reject bribery.
- 3.04. Accept no payback, kickback, or other payment from a third party to a contract, except with the knowledge and consent of all parties to the contract.
- 3.05. Accept payment from only one party for any particular project, or for services specific to that project, except when the circumstances have been fully disclosed to parties concerned and they have given their informed consent.
- 3.06. Disclose to all concerned parties those conflicts of interest that cannot reasonably be avoided or escaped and aspire to resolve them.
- 3.07. Participate in no decision of a governmental or professional body, as a member or advisor, concerned with software, or related documents, in which they, their employer, or their client have a financial interest.
- 3.08 TEMPER ALL TECHNICAL JUDGEMENTS BY THE NEED TO SUPPORT AND
MAINTAIN HUMAN VALUES.

PRINCIPLE 4: CLIENT AND EMPLOYER. Software engineers shall, consistent with the public health, safety, and welfare, always act in professional matters as faithful agents and trustees of their client or employer. In particular, software engineers shall:

- 4.01. Provide service only in areas of their competence.
- 4.02. Assure that any document upon which they rely has been approved by someone authorized to approve it.
- 4.03. Use the property of a client or employer only in ways properly authorized, and with the client's or employer's knowledge and consent.
- 4.04. Not knowingly use illegally obtained OR RETAINED software on equipment of a client or employer or in work performed for a client or employer.
- 4.05. Keep as confidential information gained in their professional work that is not in the public domain (and is not inconsistent) ,
WHERE SUCH CONFIDENTIALITY IS CONSISTENT
with matters of public concern.
- 4.06. Identify, document, and report to the employer or the client any problems or matters of social concern in the software or related documents on which they work or of which they are aware.
- 4.07. Inform the client or the employer promptly if, in their opinion, a project is likely to fail, to prove too expensive, to violate

- intellectual property legislation, in particular copyright, patent, and trademarks, or otherwise be problematic.
- 4.08. Accept no outside work detrimental to the work they perform for their primary employer.
 - 4.09 Represent no interest adverse to their employer's without the employer's specific consent , unless ethical considerations demand otherwise.

Principle 5 MANAGEMENT. A software engineer in a management or leadership capacity SHALL ACT FAIRLY AND SHALL ENABLE AND ENCOURAGE THOSE WHO THEY LEAD TO MEET THEIR OWN AND COLLECTIVE OBLIGATIONS, INCLUDING THOSE UNDER THIS CODE. IN PARTICULAR, THOSE SOFTWARE ENGINEERS IN LEADERSHIP ROLES SHALL AS APPROPRIATE:

- 5.01 Assure that employees are informed of standards before being held to them.
- 5.02 Assure employees know the employer's policies and procedures for protecting passwords, files, and other confidential information.
- 5.03. Assign work only after taking into account appropriate contributions of education and experience.
- 5.04. Provide for due process in hearing charges of violation of an employer's policy or of this code.
- 5.05. Develop a fair agreement concerning ownership of any software artifact an employee has contributed to.
- 5.06. Attract employees only by full and accurate description of the conditions of employment.
- 5.07 Offer only fair and just remuneration.
- 5.08. Not unjustly prevent a subordinate from taking a better job for which that subordinate is qualified or experienced to do.
- 5.09 Not ask an employee to do anything inconsistent with this code.

Principle 6: PROFESSION. Software engineers shall, in all professional matters, advance both the integrity and reputation of their profession as is consistent with public health, safety, and welfare. In particular, software engineers shall, insofar as possible:

- 6.01. Associate only with reputable businesses and organizations.
- 6.02. Assure that clients, employers, and supervisors know of the software engineer's commitment to this code of ethics, AND THEIR OWN RESPONSIBILITY UNDER IT.
- 6.03. Support those who similarly do as this code requires.
- 6.04. Help develop an organizational environment favorable to acting

ethically.

- 6.05. Report ANYTHING REASONABLY BELIEVED TO BE A violation of this code to appropriate authorities.
- 6.06. Take responsibility for detecting, correcting, and reporting errors in software and associated documents on which they work.
- 6.07. Only accept remuneration appropriate to professional qualifications or experience.
- 6.08. Be accurate in stating the characteristics of software on which they work, avoiding not only false claims but claims that might reasonably be supposed to be deceptive, misleading, or doubtful.
- 6.09. Not promote their own interest at the expense of the profession.
- 6.10. Obey all laws governing their work, insofar as such obedience is consistent with the public health, safety, and welfare.
- 6.11. Exercise professional responsibility to society by constructively serving in civic affairs.
- 6.12. Promote public knowledge of software engineering.
- 6.13. Share useful software-related knowledge, inventions, or discoveries with the profession, for example, by presenting papers at professional meetings, by publishing articles in the technical press, and by serving on the profession's standard-setting bodies.

Principle 7: COLLEAGUES. Software engineers shall treat all those with whom they work fairly and take positive steps to support these collegial activities. In particular, software engineers shall, as appropriate:

- 7.01. Assist colleagues in professional development.
- 7.02. Review the work of other software engineers, which is not in the public domain, only with their PRIOR knowledge, PROVIDED THIS IS CONSISTENT WITH SAFETY.
- 7.03. Credit fully the work of others.
- 7.04. Review the work of others in an objective, candid, and properly-documented way.
- 7.05. Give a fair hearing to the opinion, concern, or complaint of a colleague.
- 7.07. Assist colleagues in being fully aware of current standard work practices including policies and procedures for protecting passwords, files, security measures in general, and other confidential information.
- 7.08. Not interfere in the professional career progression of any colleague.
- 7.09. Not take steps to supplant another software engineer after steps have been taken for employment.
- 7.10. IN SITUATIONS OUTSIDE OF THEIR OWN AREAS OF

COMPETENCE, CALL UPON THE OPINION'S OF OTHER
PROFESSIONALS WHO HAVE COMPETENCE IN THAT
AREA.

Principle 8: SELF. Software engineers shall, throughout their career, strive to enhance their own ability to practice their profession as it should be practiced. In particular, software engineers shall continually endeavor to:

- 8.01. Further their knowledge of developments in the design, development, and testing of software and related documents, together with the management of the development process.
- 8.02. Improve their ability to create safe, reliable, and useful quality software at reasonable cost and within a reasonable time.
- 8.03. Improve their ability to write accurate, informative, and literate documents in support of software on which they work.
- 8.04. Improve their understanding of the software and related documents on which they work and of the environment in which they will be used.
- 8.05. Improve their knowledge of the law governing the software and related documents on which they work.
- 8.06. Improve their knowledge of this code, its interpretation, and its application to their work.
- 8.08. Not require or attempt to influence any person to take any action which involves a breach of this code.
- 8.09. Consider violations of this code inconsistent with being a professional software engineer.

This Code was developed by the ACM/IEEE-CS joint task force on Software Engineering Ethics and Professional Practices Task Force : Donald Gotterbarn Chair; Keith Miller and Simon Rogerson, Executive Committee; Members: Peter Barnes, Steve Barber esq., C.S. Burnstein, Amr El_Kadi, Ben Fairweather, Milton Fulghum, N. Jayaram, Tom Jewett, Maj. Mark A. Kanko, Ernie Kallman, Duncan Langford, Joyce Currie Little, Ed Mechler, Manny Norman, Douglas Phillips, Peter Prinzivalli, Mary Prior, Patrick Sullivan, John Weckert, S.Weisband, and Laurie Werth,

Please send comments on this draft of the Preamble and the Code to Donald Gotterbarn, Computer and Information Sciences, East Tennessee State University, Box 70711, Johnson City Tennessee, 37614-0711,(d.gotterbarn@computer.org.) OR RESPOND TO THE SURVEY FORMS ON THE IEEE-CS AND ACM WEB SITES

=====END of PROPOSED PUBLICATION=====

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: PRP1@AOL.COM[SMTP:PRP1@AOL.COM]
Sent: Tuesday, March 18, 1997 6:11 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Preamble and Code revision

<<File: ATT00968.txt>>

This message was sent using a character set not supported on the Internet Mail Connector. The message text has been placed into the attachment: ATT00968.txt. To view, double-click on the attachment. If the text isn't displayed correctly, save the attachment to disk, and then use a viewer that can display the original character set.

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Tuesday, March 18, 1997 7:39 AM
To: Multiple recipients of list PRFCMP-L
Subject: Preamble and Code revision

Cheers from sunny England,
The last draft -version 2 - of the code was sent to the steering committee last month along with a schedule. The schedule had several internal review cycles followed by preliminary distribution for wider comment and then distribution in the major publication of each society for review and balloting on each code element. This informatin would be used in the last revision of the code.

Below is the revised version of the Preamble for your comments. It is important to get your comments on both the code and the preamble to me as quickly as possible. We need to have it ready by the end of the month if it is to get into JULY issues.

I know it is a lot of work but we must get the code ready for wider distribution and the code as it was sent to you had several areas that needed to be filled in.

Thanks again for your continued interest.
(yes, it was sunny in England, at least when I started this note.)

don

=====

.Version 2.0 of Preamble for steering committee and task force
consideration 17 March

PREAMBLE v 2.0

Computers now have a central and growing role in commerce, industry, government, medicine, education, entertainment, social affairs, and ordinary life. Those who contribute, by direct participation or by teaching, to the design and development of software systems have significant opportunities both to do good and to cause harm. To assure, as much as possible, that this power will be used for good, software engineers must commit themselves to making the design and development of software a beneficial, and respected profession. In accordance with that commitment, software engineers shall adhere to the following code of ethics.

The code contains eight keyword principles related to the behavior of and decisions made by professional software engineers, be they practitioners, educators, managers and supervisors, or policy makers, as well as trainees and students of the profession. The Principles identify the various relationships in which individuals, groups, and organizations participate and the primary obligations within these relationships.

Each principle of this code addresses three levels of ethical obligation owed by professional software engineers in each of these relationships. The first level identified is a set of ethical values which they share with all other human beings by virtue of their humanity. The second level obliges professionals to a higher order of care for those effected by their work. The third and deeper level comprises several of those obligations which derive directly from elements unique to the professional practice of software engineering. The clauses of each principle are illustrations of the various levels of obligation included in that relationship.

The clauses under each Principle consist of three different types of statement corresponding to each level. Level One: Aspire (to be human); Statements of aspiration provide vision and objectives, are intended to direct professional behavior. These directives require significant ethical judgement. Level Two: Expect (to be professional); Statements of expectation express the obligations of all professionals and professional attitudes. Again they do not describe the specific behavior details but they clearly indicate professional responsibilities in computing. Level Three: Demand (to use good practices); Statements of demand assert more

specific behavioral responsibilities within software engineering which are more closely related to the current state of the art. The range of statements is from the more general aspirational statement to specific measurable requirements.

Although all levels of professional obligation are recognized and because the Code contains different types of statements, the Code is not intended to be all inclusive nor is it intended that its individual parts be used in isolation to justify errors of omissions or commission. The list of Principles and Clauses is not exhaustive, and should not be read as separating the acceptable from the unacceptable in professional conduct in all practical situations. The Code is not a simple ethical algorithm which generates ethical decisions. In some situations standards may conflict with each other or with standards from other sources. These situations require the software engineer to use ethical judgement to act in a manner which is most consistent with the code of ethics, given the circumstances.

These ethical tensions can best be answered by thoughtful consideration of fundamental principles, rather than reliance on detailed regulations. These Principles should influence you to consider broadly who is affected by your work; to examine if we are treating other human beings with due respect; to speculate on how the public would view your decision; to analyze how the least empowered will be affected by your decision; and to consider if your acts would be considered worth of the ideal software engineer. Since this code represents a consensus of those engaged in the profession one should determine to act in a manner likely to be judged as the most ethical way to act in the circumstances by informed, respected, and experienced peers in possession of all the facts.

The dynamic and demanding context of software engineering requires a code that is adaptable and relevant to new situations as they occur. But even in this generality, the code provides support for the software engineer who needs to take positive action by documenting the ethical stance of the profession; an ethical foundation to which individuals within teams and the team as a whole can appeal. The code also helps to define those things which are ethically improper to request of an software engineer.

The code has an educational function, by stating what is required of anyone wishing to join or continue in the software engineering community. Because it expresses the consensus of the profession on ethical issues it can be used as a guide to decision making and as means to educate both the public and aspiring professionals about the professional obligation of software engineers
(preamv2.txt)

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Tuesday, February 11, 1997 9:46 AM
To: Multiple recipients of list PRFCMP-L
Subject: Where has my packet gone ?!

Technology has generated a high level of anxiety. I would, for a few hours at least, advocate PATIENCE. Last evening around 6:00 pm GMT, 1:00 pm US eastern Standard time, I sent off three somewhat long emails.

The net being what it is, the messages are taking interesting routes to get to you all.

For example, I mailed them from the Centre for Computing and Social Responsibility here in England. The director- office across the hall from me- did not get part one until 2:00 pm this afternoon. One can only speculate what route that message must have taken. While a research associate upstairs had all three message this morning (GMT).

While you are waiting, you could tackle, grapple with, the parts you do have :-). I appreciate your enthusiasm, but we are actually slowing down their arrival filling the net with these messages. (me too, I guess with this message).

cheers,
don

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Milton Fulghum[SMTP:fulghum@VSS.FSI.COM]
Sent: Tuesday, February 11, 1997 9:31 AM

To: Multiple recipients of list PRFCMP-L
Subject: Re: Last of three { : -)

I have received parts 1 and 2 but not 3.

Milton Fulghum

From: Duncan Langford[SMTP:D.Langford@UKC.AC.UK]
Sent: Tuesday, February 11, 1997 6:57 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Last of three { : -)

> Received all three.
>
> Manny.

O fortunate one - I managed to get (2) and (3), but am still anxiously waiting for (1)...

- duncan

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Monday, February 10, 1997 5:57 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Last of three { : -)

Received all three.

Manny.

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Monday, February 10, 1997 1:54 PM
To: Multiple recipients of list PRFCMP-L
Subject: Last of three { : -)

Code Principles 5-7 version 2.0

===== 5 =====

This principle, as initially stated, has the goal of not bringing the profession into disrepute.

In general, quality and safety over-rides to this principle.

Principle 5: PROFESSION. Software engineers shall, in all professional matters,

advance both the integrity and reputation of their profession(1) as is consistent with public health, safety, and welfare. In particular, software engineers shall, insofar as possible

- 5.01. Associate only with reputable businesses (2) and other organizations.
- 5.02. Assure that clients, employers, and supervisors know of (3) the software engineer's commitment to this code of ethics.
- 5.03. Support those (4) who similarly do as this code requires.
- 5.04. Help develop an organizational environment favorable to acting ethically.
- 5.05. Report violations of this code to appropriate authorities.
- 5.06. Take responsibility for detecting, correcting, and reporting errors in software and associated documents on which they work.
- 5.07. Only accept (5) remuneration appropriate to professional qualifications (6) or experience.
- 5.08. Be accurate in stating the characteristics of software on which they work, avoiding not only false claims but claims that might reasonably be supposed to be deceptive, misleading, or doubtful.
- 5.09. Not promote their own interest at the expense of the profession.
- 5.10. Obey all laws governing their work, insofar as such obedience is consistent with the public health, safety, and welfare.
- 5.11. (7).Exercise professional responsibility to society by serving in civic affairs constructively
- 5.12. (8) Promote public knowledge of software engineering.
- 5.13. Share useful software-related knowledge, inventions, or discoveries with the profession(9), for example, by presenting papers at professional meetings, by publishing articles in the technical press, and by serving on the profession's standard-setting bodies. (10) deleted
- clause 5.14. Make no political contribution, gift, or commission for award of a contract.

===== 6 =====

This clause dealt with collegiality between professionals and management issues. We have separated this into two Principles one dealing with collegiality and the other addressing management issues

Principle 6: COLLEAGUES. Software engineers shall treat all those with whom they work fairly (11) and take positive steps to support these collegial activities. In particular, software engineers shall, as appropriate:

- 6.01. Assist (12) colleagues in professional development.
- 6.02. Review the work of other (13) software engineers which is not in the public domain only with their knowledge.
- 6.03. Credit fully the work of others.
- 6.04. (14) Review the work of others in an objective, candid, and properly-documented way.
- 6.05. Give a fair hearing to the opinion, concern, or complaint of a

- colleague. (15)
- 6.07 assist colleagues in being fully aware of current standard work practices including policies and procedures for protecting passwords, files, security measures in general, and other confidential information. (16)
- 6.08 not interfere in the professional career progression of any colleague
- 6.09 not(16a) take steps to supplant another software engineer after steps have been taken for employment.
- 6.10 call upon other professional's opinions, in their areas of competence, in situations outside of their own areas of competence.

===== N =====

This was separated out from Principle 6 as a means of gathering together specific anagement issues. The reason it has no number is that we have not figured out were it belongs. Suggestions ??????

(17)

Principle N MANAGEMENT. A software engineers in a management or leadership capacity...

(This sentence is under construction. Any suggestions ??????)

(Clauses are also under construction. Clauses to be formulated should include:

enable, encourage, follow good practice..provide direction to good sowftware engineering practices and follow such practices ???

Suggestions???

- the principle contains due process now

- need to add Team building, Communications, Good practices.

Some clauses were moved from Principle 6 to here and modified to fit management.

N6.06. Assure that employees are informed of standards before being held to them.

N6.07. Assure (18)employees know the employer's policies and procedures for protecting passwords, files, and other confidential information.

N6.08. Assign work only upon considerations of professional qualifications (19) or experience.

N6.09. Provide for due process in hearing charges of violation of an employer's policy or of this code.

N6.10. Develop a fair agreement concerning ownership of any software artifact an employee makes.(moved 6.11 to 6.09)

N6.12. Attract employees only by full and accurate description of the conditions of employment.

N6.13. Offer only fair and just (20) remuneration.

N6.14. Not (21) unjustly prevent a subordinate from taking a better job for which the subordinate is qualified(22) or experienced to do.(23)

N6.15 Not ask an employee to do anything inconsistent with this code.

Principle 7: SELF. Software engineers shall, throughout their career, try to enhance their own ability to practice their profession as it should be practiced. In particular, software engineers shall continually endeavor to:

- 7.01. (24) Further their knowledge of (25) developments in the design, development, and testing of software and related documents,(26) together with the management of the development process.
- 7.02. Improve their ability to create safe, reliable, and useful (27)quality software at reasonable cost and within a reasonable time.
- 7.03. Improve their ability to write accurate, informative, and literate documents in support of software on which they work.
- 7.04. Improve their understanding of the software and related documents on which they work and of the environment in which they will be used.
- 7.05. Improve their knowledge of the law governing the software and related documents on which they work.
- 7.06. Improve their knowledge of this code, its interpretation, and its application to their work. (28)
- 7.08 Not require or attempt to influence any person to take any action which involves a breach of this code.
- 7.09 Consider violations of this code inconsistent with being a professional software engineer.

=====

Modification made to Principles 5-7

- 1 added "as is consistent with public health, safety, and welfare."
- 2 added "and other organizations" to broaden the scope of this to entities an SE is likely to work with and for.
- 3 added "the software engineer's commitment to this code of ethics" to be sure that management knows of the constraints the code imposes on the SE's behaviour
- 4 added "those who similarly " to extend the support to those non-software engineers who my advocate elements of this code .
- 5 replace "salary" with "remuneration".
- 6. add "or experience"
- 7. replace with "Exercise professional responsibility to society by serving in civic affairs constructively." to make clear the professional's

obligations to benefit society.

- 8 replace "Improve" with "Promote" which unlike 'improve' doesn't presume a pre-existing knowledge of software engineering.
9. Insert "For example by presenting" to make clear that these are only some examples of ways to share knowledge.
10. Delete 5.14 because it belongs under Principle 3 and the content is already included there under 3.06
- 11 add " and take positive steps to support these collegial activities" to add a very proactive element to this clause. *****This needs word smithing ??????????
- 12 replace "co-worker" " with "colleagues" to reflect a broader range of persons involved.
- 13 revise by adding "other software engineers which is not in the public domain" to enable review of public artifacts.
- 14 Replace "criticize" with a less value laden term "review"
- 15 Insert clause "Shall assist colleagues in being fully aware of current standard work practices including policies and procedures for protecting passwords, files, security measures in general, and other confidential information."
- 16 Insert clauses
6.08 shall not interfere in the professional career progression of any colleague.
6.10 call upon other professional's opinions, in their areas of competence, in situations outside of their own areas of competence."
- 16a Add "not take steps to" to allow situations in which an SE may be required to take over work initially offered to another software engineer.
- 17 Remove items 6.06, 6.07,6.08.6.09, 6.10,6.12,6.13,6.14 to a new MANAGEMENT Principle.
Include project management issues in this Principle.
- 18 Replace "co-workers" with "employees" to reflect management principle.
- 19 add "or experience"
- 20 replace "compensation" which in Europe means 'an item given to

redress a wrong done to you ' with "remuneration".

- 21 insert "unjustly" to allow justifiable ways, such as a raise in salary, to discourage a subordinate from taking another job.
- 22 add " or experienced to do"
- 23 add clause "Will not ask an employee to do anything inconsistent with this code"
- 24 Replace 'Improve" which suggests that the software engineer does not have a good understanding now, with "Further"
- 25 delete "recent" to encourage the software engineer to learn things which may not be recent but could still be useful
- 26 add "together with the management of the development process"
- 27 insert "quality"
- 28 add clauses
 - 7.08 will not require or attempt to influence any person to take any action which involves a breach of this code"
 - 7.09 consider violations of this code inconsistent with being a professional software engineer.

*****TEMPORARY ADDRESS CHANGE*****

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DeMontfort University,
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Leicester LE1 9BH, UK

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Monday, February 10, 1997 1:51 PM
To: Multiple recipients of list PRFCMP-L
Subject: First of three

Dear Task Force Members:

Below is a copy of the main body of code of ethics which has been modified to address reviews received from a several of sources. The changes to the Preamble are being worked on now.

The architecture of the code v2.0 is similar to version 1.0. It will start out with a preamble or introduction explaining the functions of the code and guidelines on its use. This is followed by a series of keyword principles describing a software engineer's obligations in a variety of relationships. Associated with each of these keyword principles is a high level description of the software engineer's obligations. These are each followed by a series of clauses detailing some of the obligations under this Principle. These obligations are taken from all three levels of obligation in a professional code of ethics- level 1 representing obligations shared with all other human beings, level 2 obligations which are shared by all professionals, level 3 obligations which are specific to software engineering.

The architecture of this code, major principles, followed by explanations or examples, is fairly common, e.g., it is used by the NSPE and the British Computer Society. The use of an explanatory Preamble to explain the role of the code and instructions that the code should not be considered as a complete list of professional ethical obligations is also quite common. For example, all codes used in the architecture table follow this format. The Code v2.0 differs from most other codes in two ways. First, the code is different in its use of keyword Principles indicating obligations based on professional relationships. Some codes, like the Australian Computer Society Code of Ethics, also use keyword principles. The SE code differs in that its keywords are tied to professional relationships. Works on computer ethics have found this organization useful in covering the topics of professionalism and useful as a good mnemonic device. The code also differs from other code by clearly addressing, in the preamble, the difference between the three levels of professional obligation and organizing the clauses under each principle around these three levels.

In the next few days,
WOULD YOU PLEASE READ THROUGH THIS DRAFT OF THE CODE
AND GIVE US YOUR COMMENTS. IF YOU DISLIKE SOMETHING
THAT HAS BEEN DONE, PLEASE SAY SO AND GIVE US YOUR
SUGGESTIONS FOR IMPROVEMENT.

SPECIFIC PLACES WE ARE LOOKING FOR COMMENT HAVE
?????????? following the explanation of the modification

All revisions are indicated by numbers in parenthesis. The meaning of each parenthetical number is at the end of the section of the document. Please print the document and go through the code and the reasons for the changes in parallel, inserting your comments and suggestions for changes to the code and changes to the justifications.

Thanks for the help. I look forward to seeing your comments.

Thanks for your help.

cheers,

don

code Principles 1-2- version 2

=====

=====

CODE OF ETHICS FOR SOFTWARE ENGINEERS v 2 February 1967

INTRODUCTION

< SKIP >

(1) Principle 1: PRODUCT. Software engineers shall, insofar as possible, assure that the software on which they work is useful (2) and of acceptable quality to the public, the employer, the (3) client, and the user, completed on time and at reasonable cost, and free of (3a) error. In particular, software engineers shall, as appropriate:

- 1.01. (4)Ensure that specifications for software on which they work have been (5)well documented, satisfy the user's requirements, and have the customer's approval.
- 1.02. (6) Strive to understand fully the specifications for software on which they work.
- 1.03. (4)Ensure that they are qualified, by education (7) or experience, for any project on which they work (8) or propose to work..
- 1.04. (4)Ensure proper goals and objectives for any project on which they work.
- 1.05 (4)Ensure (9)an appropriate development methodology on any project on which they work(8) or propose to work.
- 1.06. (4)Ensure (9) good management on any project on which they work, including (9) effective procedures for control of quality and risk.
- 1.07. (4)Ensure (9)realistic estimates of cost, schedule, personnel, and outcome on any project on which they work (8)or propose to work.
- 1.08. (4)Ensure adequate documentation on any project on which they work, including a log of problems discovered and solutions adopted.
- 1.09. (4)Ensure (9) adequate testing, debugging, and review of software and related documents on which they work.
- 1.10. (10) Aspire to develop software and related documents that respect the privacy of those who will be subjected to that software.
- 1.11 (10)e careful to use only accurate data derived from legal sources and use only in ways properly authorized.
- 1.12. (10)Aspire to identify define and address ethical, economic, cultural,

legal, and environmental issues.

- 1.13. Promote maximum (11) quality and minimum cost to the employer, the (3) client, the user, and the public (11a) and make any tradeoffs clear to all parties concerned..
- 1.14. (10) Aspire to follow industry standards that are most appropriate for the task at hand, departing from these only when technically justified.

===== 2 =====

Principle 2: PUBLIC. Software engineers shall, in their professional role, act only in ways consistent with the public safety, health and welfare. In particular, software engineers shall:

- 2.01. Disclose to appropriate persons (12) or authorities any (13) actual or potential danger that the software or related documents on which they work(14) or are aware of may pose to the user, a third party, or the environment.
- 2.02. Approve software only if they have a well-(15)founded belief that it is safe, meets specifications, and has passed (15a) appropriate tests,(16) and does not diminish quality of life or harm the environment.
- 2.03. Affix their signature only to documents prepared under their supervision (17) or within their areas of competence (17a) and with which they are in agreement.
- 2.04. Co-operate in efforts to (18) address matters of grave public concern in software or related documents.
- 2.05. Be fair and truthful in all (19) statements, particularly public ones, concerning software or related documents.
- 2.06. Not put self-interest, the interest of an employer, the interest of a client (3), or the interest of the user ahead of the public's interest.
- 2.07. Accept full responsibility for their own work.

Principle 3: JUDGMENT. Software engineers shall, insofar as possible, protect both the independence of their professional judgment and their reputation for such judgment. In particular, software engineers shall, as appropriate:

=====

Modifications to Principles 1 and 2

1. Change "Rule" to "Principle" since these are not really single rules but statements that embody a sets of activities. This change lessens the possibility of misreading of the code as a checklist,.
2. This introduces professional commitment to quality at an early level and helps to answer the "who is to say" question.
3. Replace all uses of word 'customer with word 'client'. 'Client' is a less domain specific word. In a maintenance situation the client is the person who delivered the task to you. Client could also be a student or the

professional receiving services from the professional organization. This change introduces some consistency missing from later clauses. "Client" is a person using the services of X.

- 3a. We felt uncomfortable with the phrase 'significant error'. It may be used as an escape clause- 'I had lots of errors but didn't think any of them significant'. Instead we deleted the word 'significant' and handled more detail about error in Principle 2.

???????? There is still some concern with this change because it is not possible to write error free code. Any suggestions for balancing these concerns?

4. Replace 'assure' with 'ensure'. 'Ensure' is less legal than 'assure' which carries a formal guarantee and legal connotation (according to the OED); whilst 'ensure' means to strive to make a thing happen and no formal guarantee is implied. This change is made for most future occurrences of 'assure'.
5. Replace 'in writing' with more generic 'well documented' to allow for multimedia capture of specifications.
6. Replace 'assure' with 'Strive to'; used a purely aspirational term here to placate those who appeal to impossibility of precise specs.
7. Change 'and' to 'or' in 1.03 to include those who have good technical knowledge and to make clear that 'qualified by education' does not imply paper qualification.
8. Add clause to 1.03.1.05, and 1.07 'or propose to work' because this encourages a professionals commitment to develop the requisite skills prior to taking on new responsibilities.
9. Replace 'proper' in several clauses with a less vague phrase. For example in this clause there are technical answers to the question 'which methods are appropriate?'

Clause 1.01-1.09 are more technical than 1.10-1.14. It is in these latter clauses where we started to more emphatically introduce a professional's commitments to society embodied in product development.

- 10 Used more aspirational and intentional phrase for these level 1 type obligations in 1.10-1.14
- 11 Replace "productivity" with "quality".
- 11a add "and make tradeoffs clear to all parties concerned" which

acknowledges the clients right to informed consent

Principle 2

- 12 Insert word "authorities" because want to refer to someone who can remedy the problem.
- 13 Insert 'actual or potential' because if we only respond to actual dangers then one does not have an obligation to address potential dangers.
- 14 Added 'or are aware of' because as stated, you only have obligations to report dangers of projects you are working on. Someone next to you can be working on a dangerous project and even if you are aware of the danger it poses, there is no stated obligation to address the problem. Both ACM and IEEE code require the reporting of dangers 'you are aware of'.
- 15 Replace 'well-documented' with 'well-founded'.
- 15a Delete 'all' to avoid the suggestion that exhaustive testing is required
16. Added specific commitments to protect the public and the ability to use the approval process to do it.
17. Replace 'and' with 'or' to allow for approvals where the SE is not in a supervisory role.
- 17a. add "and to which they are in agreement" otherwise clause requires you to sign all things just because they are in your area of expertise.
18. Restructured this statement to address a public issue. As stated this clause was strictly product related.
- 19 The clause as it stood indicated that it was ok to lie in non public statements.

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Monday, February 10, 1997 1:52 PM
To: Multiple recipients of list PRFCMP-L
Subject: second of three

code Principles 3-4 version 2.0

Principle 3: JUDGMENT. Software engineers shall, insofar as possible, (1) promote and protect both the independence of their professional judgment and their reputation for such judgment. In particular, software engineers shall, as appropriate:

- 3.01 Maintain professional (2)objectivity with respect to any software or related documents they are asked to evaluate.(3)
- 2.03. Affix their signature only to documents prepared under their supervision and within their areas of competence.
- 3.02. Reject bribery.
- 3.03. Accept no payback, kickback, or other payment from a third party to a contract, except with the knowledge and consent of all parties to the contract.
- 3.04. Accept payment from only one party for any particular project, or for services (4)specific to that project, except when the circumstances have been fully disclosed to the parties concerned and they have given their informed consent.(5)
- 3.07. Disclose to all concerned parties those conflicts of interest that cannot reasonably be avoided or escaped (6) and aspire to resolve them.(7)
- DELETED 3.05. Neither solicit nor accept a contract from a governmental body on which a principal or officer of their employer serves as a member.
- 3.06. (7a) Participate in no decision of a governmental or professional body, as a member or advisor, concerned with software, or related documents, in which they, their employer, or their client have a financial interest.
(8) need additional SOCIAL clauses.....????
(8a) Judgement about when to blow the whistle- relate to 4.05

===== 4=====

This Principle talks about obligations between client and employer and emphasizes loyalty and not harming the other party unless required by concerns of public health, safety, and welfare. If this list is viewed as exclusive than it would seem we can "sell a computer to Hitler" since it will only be used to discriminate against a particular group. We need to fill out the list or make clear that it is not exhaustive. ????????

PRINCIPLE 4: CLIENT AND EMPLOYER. Software engineers shall, consistent with the public health, safety, and welfare, always act in professional matters as faithful agents and trustees of their client or employer.

In particular, software engineers shall:

- 4.01. Provide service only in areas of competence.
- 4.02. Assure that any document upon which they rely has been approved by someone (9) authorized to approve it.
- 4.03. Use the property of a client or employer only in ways properly authorized (10), and with the client's or employer's knowledge and consent.
- 4.04. Not knowingly use (11) illegally obtained software on equipment of a client or employer or in work performed for a client or employer.
- 4.05. Keep as confidential information gained in their professional work that is not (12) in the public domain (13) and is not inconsistent with matters of public concern.
- 4.06. Identify, document, (14) and report to employer or client any problem (15)s or matters of social concern in the software or related documents on which they work (16) or of which they are aware.
- 4.07. Inform the client or the employer promptly if, in their opinion, a project is likely to fail, to prove too expensive, to violate (17) intellectual property legislation, in particular copyright, patent, and trademarks, or otherwise (18) be problematic.
- 4.08. Accept no outside work detrimental to the work they perform for their primary employer.
- 4.09 Unless ethical considerations demand otherwise, an employee shall represent no interest adverse to their employer's without the employer's specific consent (19).

Explanation of modifications to Principles 3 and 4

Principle 3 talks about professional judgement. After clause 3.01 which states the need for objective judgement, clause 3.02 through clause 3.07 SECE v1.0 dealt with the elimination of one type of external influence on judgement, specifically financial interference with objective judgement. Other pressures on objective judgement, e.g., political, and social, are not yet addressed in this principle. We should ask the task force for specific contributions here????????.

1. add 'promote and' to Principle 3 because as stated it simply indicates that we should merely try to hang on to professional judgement.
2. replace 'skepticism' with 'objectivity', the latter being a less negative sentiment
3. move 2.30 to here, reflecting a specific type of significant judgement.
4. replace 'related' with 'specific'. Ruling out related services means that a SE could not develop an area of work, like a specialty in radar systems, and then market that skill (which is related to a single product) to others.
5. Reorganize principles 3.05-3.07 which deal with conflict of interest. Start with Principle 3.07 and expand 3.07 to address the objection "that conflict of interest issues can be managed in a variety of ways and do

not require complete exclusion".

- 6 Add 'and aspire to resolve them' to meet a concern with complete exclusion as the only way to address conflict of interest.
7. Delete clause 3.05. This clause says that the SE should not behave in a way which might bring about this particular type of conflict of interest. It presupposes that absolute exclusion is the only way to address conflicts of interest. This presumption is inconsistent with the modification suggested for 3.07. This clause would, for example, rule out a member of the IEEE Board of Governors advocating the development of a funded task force which addresses an issue in that member's own specialization.
- 7a The discussion of this is that it may be as restrictive as 3.05 and is still in need of modification. ?????? ?????
- 8 Missing clauses under this principle - As this clause stands judgement is merely a technical thing and does not involve social issues. Some examples might be:

Only make judgements which can be publicly justified as being in the best interest of quality of life, and the environment.

Be aware that all technical judgements impact other human beings. They have stakeholders other than employers, clients, and users.

All technical judgements should be tempered and guided by the need to support and maintain human values.

- 9 replace 'qualified' with 'authorized'. This avoids questions of how one determines qualification-competence.
- 10 add ', and with the client or employers knowledge and consent.'
- 11 replace pirated with a less idiomatic term, namely "illegally obtained".
- 12 delete word 'properly'
- 13 add 'and is not inconsistent with matters of public concern' because as originally stated, if someone concentrated on the clause 4.05 alone they might think it prohibits whistle blowing.
- 14 replace 'properly'
- 15 add 'or matters of social concern' because someone might interpret 'problems' as referring exclusively to code bugs. This addition helps define the social responsibility of a professional software engineer.
- 16 add 'or of which they are aware' to clarify the broader responsibility of a professional to the whole of society.
- 17 replace 'violate copyright laws' with 'intellectual property legislation, in particular copyright, patent, and trademarks'
- 18 Change the expression 'turn out badly to' to "be problematic"
19. Insert "unless ethical considerations demand otherwise, since as stated it would be unethical to whistle blow unless the employer consents.

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Mechler, Edmund
Sent: Friday, February 07, 1997 8:44 AM
To: Multiple recipients of list PRFCMP-L
Subject: Relationship Matrix

Thanks everyone I finally got a lined up copy
of the matrix. Thanks Don
Ed

From: Mechler, Edmund
Sent: Friday, February 07, 1997 8:40 AM
To: 'Vivian Weil'
Subject: RE:

Lets try again

<<File: seCODref.txt>>
Ed

From: Vivian Weil[SMTP:weil@charlie.cns.iit.edu]
Sent: Friday, January 31, 1997 12:55 PM
To: Mechler, Edmund

To: Ed Mechler
From: Vivian Weil

I did NOT receive it.

Vivian Weil, Director
Center for the Study of Ethics in the Professions
Illinois Institute of Technology
phone: (312)567-3472
fax: (312)567-3016
weil@charlie.cns.iit.edu

10 W. 31st Street, Rm. 102 Stuart Building
Chicago, IL 60616-3793

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Thursday, February 06, 1997 9:28 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Text version of table

Yes, I discovered that. Any of the courier fonts works fine with it
in MS Word.

Manny.

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Thursday, February 06, 1997 6:55 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Text version of table

If you try to print the table showing the relationship between this code
and other codes using a variable size font you will encounter the same
difficulty Ed encountered. The table is a pure ascii text table and must
be printed using a mono-space font, something exciting like courier:-).

Copy the table into your word processor, select the table, select a mono-
space font, and if necessary select a font size which does not cause the
table to wrap. If there is nothing under PMI for 1.01 then the table is
wrapping. This should work for most systems that I know of.

Sorry if you had any trouble with this.

Cheers,
don

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Donald Gotterbarn[SMTP:dgot@dmu.ac.uk]
Sent: Thursday, February 06, 1997 6:47 AM
To: Mechler, Edmund
Subject: RE: Text version of table

Ed,
I've managed to recreate you problem. If you print the table using a variable sized font it will not line up. You need to print text tables using a mono-spaced font, eg. courier etc.

I am going to remind the task force about this problem with using new fangled :-) word processors just in case others have a similar problem.
don

*****TEMPORARY ADDRESS CHANGE*****
Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Mechler, Edmund
Sent: Wednesday, February 05, 1997 11:13 AM
To: 'Donald Gotterbarn'
Subject: RE: Text version of table

Fax no 412-553-5970

From: Donald Gotterbarn[SMTP:dgot@dmu.ac.uk]
Sent: Wednesday, February 05, 1997 9:03 AM
To: Mechler, Edmund
Subject: Re: Text version of table

Ed,
The copy of the code you sent me lined up on my system, standard IBM clone. I checked with someone else here and they had no problem either, so I thought maybe something flipped going across the atlantic and I checked with someone else in the states. They didn't have a problem either. Let me know your fax number and I will send you a hard copy of the table.

cheers, don

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Tuesday, February 04, 1997 3:00 PM
To: Mechler, Edmund
Subject: Re: Last Matrix

It looks fine on my VMS screen, but when I trnasferred it to a Multia (Alpha with NT) it looked awful. However, it lines up OK if you use Courier font in a word processor.

If that doesn't work for you, let me know and I will get a printout with Courier and fax it to you. I might have to use my home PC and send it to you tomorrow, since I do not have immediate to the right combination of resources right where I am - Our VMS prints to a lineprinter, and the stuff in labs is occupied by hordes of students, who always succeed in breaking things. We have the equipment, but to get a working combination of monitor, disk drive and printer in the middle of the semester is quite an achievement here!

Manny.

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Tuesday, February 04, 1997 2:18 PM
To: Mechler, Edmund
Subject: Re: Last Matrix

Yes, the first line of mine seems to line up OK. Not only that, but in you reply to me it is line up as you say. Anyway, I'll get it printed and fax you a copy.

I hope it looks OK when printed! I am on an Alpha running VMS.

Manny.

----- Original message -----

In the first line of your copy, 1.01, under what codes does 3.4 and II.b line up? They should be ACM and PMI. If yours does can you fax me a copy at 412-553-5970. The copy from Don and you seem to be missing spaces, tabs, etc.
Ed

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Tuesday, February 04, 1997 10:49 AM
To: Mechler, Edmund
Subject: Re: Last Matrix

I will have to check this. I'm afraid that, with so much else going on, most of what the group has been sending me lately has just been sent to folders and files, to be dealt with later when I can get around to it, so, unfortunately, I have not been able to give it much attention.

Manny.

From: Mechler, Edmund
Sent: Tuesday, February 04, 1997 9:27 AM
To: 'Manny Norman, Sr. Sys. Prgmr., LT'
Subject: RE: Last Matrix

In the first line of your copy, 1.01, under what codes does 3.4 and II.b line up? They should be ACM and PMI. If yours does can you fax me a copy at 412-553-5970. The copy from Don and you seem to be missing spaces, tabs, etc.
Ed

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Tuesday, February 04, 1997 8:55 AM
To: Mechler, Edmund
Subject: Re: Last Matrix

Mine seems to be reasonably lined up; at least, readably so! Here it is:

Manny.

From: IN% "PRFCMP-L@UTKVM1.UTK.EDU" "Professional Competence Standards Task Force" 3-FEB-1997 08:14:41.72
To: IN% "PRFCMP-L@UTKVM1.UTK.EDU" "Multiple recipients of list PRFCMP-L"
CC:
Subj: Text version of table

Return-path: <@uga.cc.uga.edu:owner-prfcmp-l@UTKVM1.UTK.EDU>
Received: from uga.cc.uga.edu by EMUVAX.EMICH.EDU (PMDF V5.0-6 #16909) id <01IEZ0OHZ3XM8Y4X0A@EMUVAX.EMICH.EDU> for norman_manny@EMUVAX.EMICH.EDU;
Mon, 03 Feb 1997 08:14:39 -0500 (EST)
Received: from UTKVM1.UTK.EDU by uga.cc.uga.edu (IBM VM SMTP V2R3) with BSMTP id 6374; Mon, 03 Feb 1997 08:09:13 -0500 (EST)
Received: from UTKVM1.UTK.EDU by UTKVM1.UTK.EDU (Mailer R2.10 ptf000) with BSMTP id 3610; Mon, 03 Feb 1997 08:09:01 +0000 (LCL)
Received: from UTKVM1.UTK.EDU by UTKVM1.UTK.EDU (LISTSERV-TCP/IP release 1.8b) with spool id 4514 for PRFCMP-L@UTKVM1.UTK.EDU; Mon, 03 Feb 1997 08:08:55 +0000
Received: from UTKVM1 by UTKVM1.UTK.EDU (Mailer R2.10 ptf000) with BSMTP id 3593; Mon, 03 Feb 1997 08:07:25 +0000 (LCL)
Received: from macondo.dmu.ac.uk by UTKVM1.UTK.EDU (IBM VM SMTP V2R2) with TCP; Mon, 03 Feb 1997 08:07:19 +0000 (LCL)
Received: from helios.dmu.ac.uk (dgot@helios [146.227.1.1]) by macondo.dmu.ac.uk (8.6.12/8.6.11) with ESMTP id NAA16732 for <PRFCMP-L@UTKVM1.UTK.EDU>; Mon, 03 Feb 1997 13:13:35 +0000 (GMT)
Received: (from dgot@localhost) by helios.dmu.ac.uk (8.6.12/8.6.10) id NAA29482; Mon, 03 Feb 1997 13:06:44 +0000 (GMT)
Date: Mon, 03 Feb 1997 13:06:43 +0000
From: Donald Gotterbarn <dgot@DMU.AC.UK>
Subject: Text version of table
In-reply-to: <01IETNGZFKO88WZHU7@EMUVAX.EMICH.EDU>
Sender: Professional Competence Standards Task Force <PRFCMP-L@UTKVM1.UTK.EDU>
To: Multiple recipients of list PRFCMP-L <PRFCMP-L@UTKVM1.UTK.EDU>
Reply-to: Professional Competence Standards Task Force <PRFCMP-L@UTKVM1.UTK.EDU>
Message-id: <Pine.SUN.3.91.970203125650.25389B-100000@helios.dmu.ac.uk>

MIME-version: 1.0
Content-type: TEXT/PLAIN; charset=US-ASCII
Content-transfer-encoding: 7BIT

Sorry about the problems with the early version of the table. Only one person (with a MAC) was able to read it. To avoid all difficulties with versions of word processors etc. I spent a pleasant ground hog day (a special holiday in the colonies) rebuilding the table.

=====

Explanation of the table: The first column refers to sections of the SECv1. Only those items which closely matched the statements in SECv1 are referenced. If the referenced item in the other code is almost a direct quotation, then the reference appears in single quotes.

The codes used for comparison, listed in alphabetical order, are: The American association of Engineering Societies, Model Guide for Professional Conduct(AAES); Accreditation Board for Engineering Technology's, Code of Ethics for Engineers(ABET C of E) and Guidelines for The Fundamental Cannon of Ethics(ABET G); The Association of Computing Machinery's Code of Ethics(ACM), and Guidelines for Professional Conduct(ACM G), The British Computer Society Code of Conduct(BCS C of C); The British Computer Society , Code of Practice(BCS C of P); The Institute for the Certification of Computing Professionals (ICCP); The Engineer's Council for Professional Development, Faith of the Engineer(ECPD Faith); The Institute of Electronical and Electronics Engineers, Code of Ethics(IEEE C of E); The National Society of Professional Engineers, Code of Ethics for Engineers (NSPE C of E), and the Project Management Institute "Code of Ethics for the Project Management Profession" (PMI). Several of these codes did not contain section and paragraph numbers, so the following reference procedure was followed. If the document was not divided into sections, its paragraphs were simply numbered sequentially starting with 1. If the code was divided into sections and paragraphs, The paragraphs were given an alphabetical designation and the paragraphs within each section were numbered sequentially starting with 1.

Most of the codes are in Ethics in Engineering, Martin and Schinzinger, and the other codes are on the NET

Reference Table Comparing Software Engineering Code v 1.0 to Other Codes of Ethics. version 1.0 January 1997

Software Eng.

C of E v1

AAES ABET ABET ACM ACM BCS BCS ICCP ECPD IEEE NSPE PMI

Product												
1.01	3.4							II.b				
1.02 A	3.4							II.b				
1.03 C1	B.2	2	20	1.3	2.5	'6'	'II.2.a'	I.b				
1.04	1.c.1 3.4											
1.05	1.2				2			II.b				
1.06					2			II.b				
1.07			2.4			'3'			II.b			
1.08	1.c.1	3.4					'II.2.b'	II.b				
1.09	1.c.1	2.5							II.b			
1.10	1.8, 1.8		2	3.5					I.b			
	3.5 3.5											
	1.7											
1.11	1.7		2	4.6								
1.12 C2,	A.1	1.a,	2.3	1.1, 1.7,			8					
C4	1.c.1	3.1	1.4	8								
1.13	4.j			2								
1.14	1.2											
AAES ABET ABET ACM ACM BCS BCS ICCP ECPD IEEE NSPE PMI												
Public C.3	1.1				3	1						
2.01 C.9	A1,	1.b,	1.3	1.2	7	2.7	3	'1'	II.1.a	IV.a		
A2	1.c.3	2.5			3.7							
	3.b											
2.02	1.b	1.2	1			1	II.1.a	IV.a				
2.03	1.b,	3.2	21	1.3	2.7			'II.1.b'	I.b			
	2.c											
2.04	1.2				7							
2.05 C.3,	B.3	1.b,	2.4	17	3.4	3	I.3,	II.b				
	2.c,	3			'II.3.a'							
	3.b											
2.06 A,C9	B1,	1,			3	II.1.a						
B3	1.b											
2.07 C.8	1.2, 21				3	1	I.1	I.a				
	2.4,											
	2.6											
AAES ABET ABET ACM ACM BCS BCS ICCP ECPD IEEE NSPE PMI												
Judgement					2.1							
3.01	A.2, 2.b	2.5	2.5			II.3.c						
3.02	A2,	2.6	7			'4'	II.5.b					
	B4											
3.03 C.5	A.2, 4.c,	2.6	7			4	II.4.c,	III.d				
	4.e				II.5.b							
3.04 C.5	A2,	4.c	2.6	7	4		II.4b					
	B4											
3.05	B.4	4.a,	2.6	8	4		'II.4.e'					
	4.d,											

		4.g													
3.06	B.4	4.f	2.6	12		4	II.4.d								
3.07	C6,	B.4	1.c,	1.3	5,7,	2	'2'	II.4.a	III.a						
	C9		3.d,	2.5	9,22										
		4a													
	AAES	ABET	ABET	ACM	ACM	BCS	BCS	ICCP	ECPD	IEEE	NSPE	PMI			
Clnt/Emp	A.2						'II.4'								
4.01	C.1	B2,	2,	2.2	2.2	1.3	2.5	6	I.2	I.b					
	B5	3.c,													
		5.b													
4.02			1.5				II.1.b,	III.a							
							II.2.c								
4.03		4.I.3	3.3	1.5,	2			III.7.c	III.a						
		5.o	1.7												
4.04			1.5	1.5											
4.05	C.5	B4	4.I,	1.9,	1.9	2	4.5	2.1	II.1.c,						
			4.i.	11.8				III.4							
4.06			2.5												
4.07		4.h	1.5	2.5	26			'III.1.b'	III.a						
4.08					3.6		I.4,	III.a							
							'III.1.c'								
4.09			2.6				I.4	III.a							
	AAES	ABET	ABET	ACM	ACM	BCS	BCS	ICCP	ECPD	IEEE	NSPE	PMI			
Profession		4.I.4,				1									
		4m													
5.01		4.b					II.1.d								
5.02	A4,	6	4.1		13		10		I.e						
	B6														
5.03	C7,	6.a	4.1		13	3	10		I.e						
	C10														
5.04	B,	B6		3.1					I.e						
5.05	C.9,	A4,	4.2	1.2,	13	3		I.5,							
	B6		2.5				II.1.e								
5.06		1.f,	1.2			1	II.1.a	I.a							
	6														
5.07		1.c,					III.6.b								
		1.d													
5.08	C.3		1.c.	22.5	10	3.4	3	I.5,							
							III.3.a								
5.09	B.6	5.b				1	III.1.f								
5.10	A,B,		2.3	2.3		3.2			I.b						
	C9,														
	C10														
5.11		4	3.6				'III.2.a'								
5.12			2.7	14	2.2		III.2.c	IV.b							

5.13 C.7 1 13 1.2 3.1 5 III.11.a

III.11.b

5.14 3.a, 8,15 4 II.5.b

7f

AAES ABET ABET ACM ACM BCS BCS ICCP ECPD IEEE NSPE PMI
Colleague 7.c 8

6.01 C.7 B.7 5.a 3.6 3.6 18 1.2 4 '10' III.2 II.g

6.02 B.7 'III.8.a'

6.03 C.8 B.7 7.a 1.6 1.6 16 7 III.10.a II.f

6.04 4.o 16,19 2.6 7

6.05 C.8 5.I, 3 II.c

7e

6.06 3.c, 4.1 2.1 2.7 III.11.e II.c

5m

6.07 2.1, 2.7 III.11.e

4.5

6.08 1.3 III.11.d

2.2

6.09 5 II.c

6.10 III.10.c

6.11 16 III.11.e

6.12 4.k 2.7 III.11.e

6.13 5.d III.6.b

6.14 4.n, 16 8,9

7.i

AAES ABET ABET ACM ACM BCS BCS ICCP ECPD IEEE NSPE PMI
Self 7.g 1.1 6

7.01 B, A3, 2.2 18 1.1 3.1 4 6 III.11.a I.c

C7 B7

7.02 B, A3, 2.2 1.1 3.1 4 5 III.11.a I.c

C7 B7

7.03 B, A3, 7 2.2 1.1 3.1 4 III.11.a I.c

C7 B7

7.04 B, A3, 2.2 1.1 3.1 4 5.6 III.11.a I.c

C7 B7

7.05 B, A3, 2.3 3 1.1 3.1 III.11.a I.c

C7 B7

7.06 A3, 4.1 4.1 10 I.e

B7

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Mechler, Edmund
Sent: Tuesday, February 04, 1997 8:31 AM
To: 'Norman Manny'
Subject: Last Matrix

Did you get a good copy? Mine does not line up correctly. If you did can you send me a copy?
Ed

From: Mechler, Edmund
Sent: Tuesday, February 04, 1997 8:29 AM
To: 'Professional Competence Standards Task Force'
Subject: RE: Text version of table

Don
In the second version of code relationships the references do not line up with the correct code. It appears as spaces, tabs, etc. were not included. Nothing lines up under IEEE or PMI.
Ed

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Monday, February 03, 1997 8:06 AM
To: Multiple recipients of list PRFCMP-L
Subject: Text version of table

Sorry about the problems with the early version of the table. Only one person (with a MAC) was able to read it. To avoid all difficulties with versions of word processors etc. I spent a pleasant ground hog day (a

special holiday in the colonies) rebuilding the table.

=====

Explanation of the table: The first column refers to sections of the SECv1. Only those items which closely matched the statements in SECv1 are referenced. If the referenced item in the other code is almost a direct quotation, then the reference appears in single quotes.

The codes used for comparison, listed in alphabetical order, are: The American association of Engineering Societies, Model Guide for Professional Conduct(AAES); Accreditation Board for Engineering Technology's, Code of Ethics for Engineers(ABET C of E) and Guidelines for The Fundamental Cannon of Ethics(ABET G); The Association of Computing Machinery's Code of Ethics(ACM), and Guidelines for Professional Conduct(ACM G), The British Computer Society Code of Conduct(BCS C fo C); The British Computer Society , Code of Practice(BCS C of P); The Institute for the Certification of Computing Professionals (ICCP); The Engineer's Council for Professional Development, Faith of the Engineer(ECPD Faith); The Institute of Electronical and Electronics Engineers, Code of Ethics(IEEE C of E); The National Society of Professional Engineers, Code of Ethics for Engineers (NSPE C of E), and the Project Management Institute "Code of Ethics for the Project Management Profession" (PMI). Several of these codes did not contain section and paragraph numbers, so the following reference procedure was followed. If the document was not divided into sections, its paragraphs were simply numbered sequentially starting with 1. If the code was divided into sections and paragraphs, The paragraphs were given an alphabetical designation and the paragraphs within each section were numbered sequentially starting with 1.

Most of the codes are in Ethics in Engineering, Martin and Schinzinger, and the other codes are on the NET

Reference Table Comparing Software Engineering Code v 1.0 to Other Codes of Ethics. version 1.0 January 1997

Software Eng.

C of E v1

	AAES	ABET	ABET	ACM	ACM	BCS	BCS	ICCP	ECPD	IEEE	NSPE	PMI
Product												
1.01		3.4										II.b
1.02 A		3.4										II.b
1.03 C1	B.2	2		20	1.3	2.5	'6'	'II.2.a'	I.b			
1.04		1.c.1	3.4									
1.05		1.2			2							II.b
1.06					2							II.b

1.07		2.4	'3'	II.b								
1.08	1.c.1	3.4		'II.2.b'	II.b							
1.09	1.c.1	2.5			II.b							
1.10		1.8, 1.8	2	3.5	I.b							
		3.5	3.5									
		1.7										
1.11		1.7	2	4.6								
1.12	C2, A.1	1.a,	2.3	1.1, 1.7,	8							
	C4	1.c.1	3.1	1.4	8							
1.13		4.j		2								
1.14		1.2										
AAES ABET ABET ACM ACM BCS BCS ICCP ECPD IEEE NSPE PMI												
Public	C.3		1.1	3	1							
2.01	C.9	A1, 1.b,	1.3	1.2	7	2.7	3	'1'	II.1.a	IV.a		
	A2	1.c.3	2.5		3.7							
		3.b										
2.02		1.b	1.2	1		1		II.1.a	IV.a			
2.03		1.b,	3.2	21	1.3	2.7		'II.1.b'	I.b			
		2.c										
2.04			1.2			7						
2.05	C.3, B.3	1.b,	2.4	17		3.4	3	I.3,	II.b			
		2.c,	3					'II.3.a'				
		3.b										
2.06	A,C9	B1, 1,				3		II.1.a				
		B3	1.b									
2.07	C.8		1.2, 21			3	1	I.1	I.a			
			2.4,									
			2.6									
AAES ABET ABET ACM ACM BCS BCS ICCP ECPD IEEE NSPE PMI												
Judgement					2.1							
3.01	A.2, 2.b	2.5	2.5					II.3.c				
3.02	A2,	2.6	7			'4'		II.5.b				
	B4											
3.03	C.5	A.2, 4.c,	2.6	7		4		II.4.c,	III.d			
		4.e						II.5.b				
3.04	C.5	A2, 4.c	2.6	7		4		II.4b				
	B4											
3.05	B.4	4.a,	2.6	8		4		'II.4.e'				
		4.d,										
		4.g										
3.06	B.4	4.f	2.6	12		4		II.4.d				
3.07	C6, B.4	1.c,	1.3	5,7,		2	'2'	II.4.a	III.a			
	C9	3.d,	2.5	9,22								
		4a										
AAES ABET ABET ACM ACM BCS BCS ICCP ECPD IEEE NSPE PMI												
CInt/Emp	A.2							'II.4'				

4.01	C.1	B2, 2,	2.2	2.2	1.3	2.5	6	I.2	I.b			
		B5	3.c,									
			5.b									
4.02			1.5					II.1.b, IIIa				
								II.2.c				
4.03		4.I.3	3.3	1.5, 2				III.7.c	III.a			
		5.o	1.7									
4.04			1.5	1.5								
4.05	C.5	B4	4.I, 1.9, 1.9	2	4.5	2.1		II.1.c,				
			4.i.11.8					III.4				
4.06			2.5									
4.07		4.h	1.5	2.5	26			III.1.b'	III.a			
4.08					3.6			I.4,	IIIa			
								III.1.c'				
4.09			2.6					I.4	IIIa			
	AAES	ABET	ABET	ACM	ACM	BCS	BCS	ICCP	ECPD	IEEE	NSPE	PMI
Profession		4.I.4,			1							
		4m										
5.01		4.b						II.1.d				
5.02	A4,	6	4.1		13		10		I.e			
	B6											
5.03	C7,	6.a	4.1		13	3	10		I.e			
	C10											
5.04	B,	B6		3.1					I.e			
5.05	C.9,	A4,	4.2	1.2, 13		3		I.5,				
	B6		2.5					II.1.e				
5.06		1.f,	1.2			1		II.1.a	I.a			
	6											
5.07		1.c,						III.6.b				
		1.d										
5.08	C.3		1.c.22.5	10	3.4	3		I.5,				
								III.3.a				
5.09	B.6	5.b			1			III.1.f				
5.10	A,B,		2.3	2.3	3.2				I.b			
	C9,											
	C10											
5.11		4	3.6					III.2.a'				
5.12			2.7	14	2.2			III.2.c	IV.b			
5.13	C.7	1		13	1.2	3.1	5	III.11.a				
								III.11.b				
5.14		3.a,		8,15		4		II.5.b				
		7f										
	AAES	ABET	ABET	ACM	ACM	BCS	BCS	ICCP	ECPD	IEEE	NSPE	PMI
Colleague		7.c			8							
6.01	C.7	B.7	5.a	3.6	3.6	18	1.2	4	'10'	III.2	II.g	

Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Monday, February 03, 1997 9:15 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Code Annotation

Ed,

As regards the schedule, I did draft a detailed schedule for completion of the project as was requested by the Steering committee. Until that schedule's details and the requested support are approved by them, I did not feel it was right to distribute it widely, but instead listed in general terms those steps which I hope will lead to a successful completion of our tasks.

I understand your concern and appreciate your enthusiasm, but I did not want to distribute anything which was not agreed upon.

regards,
don

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Monday, February 03, 1997 8:43 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Text version of table

Thanks.

Manny.

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Friday, January 31, 1997 11:59 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Code Arch and Annotation

My mailer will not read comdes2.doc. Is it possible to send it in test form. Even MIMI form should do.

Manny.

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Friday, January 31, 1997 12:44 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Code Arch and Annotation

The attachment seems to have some problems:-(. While you are reading and commenting on the tome I sent, I will try to get this table straightened out (he said hopefully!).

I am sorry for the inconvenience it may have caused you.

don

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Friday, January 31, 1997 11:45 AM
To: Mechler, Edmund
Subject: MIME Reading problems

My VMS mail cannot read MIME either. However, I can convert it to text with PINE and I will send you a copy.

Manny.

From: Mechler, Edmund

Sent: Friday, January 31, 1997 11:14 AM
To: 'Norman Manny'
Subject: comdes2.doc

Were you able to open Don's file? If so send me
a copy.
Ed

From: Mechler, Edmund
Sent: Friday, January 31, 1997 11:07 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Code Arch and Annotation

Can not open comdes.doc Please resend or send
as text file
Ed

>-----
>From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
>Sent: Friday, January 31, 1997 10:34 AM
>To: Multiple recipients of list PRFCMP-L
>Subject: Code Arch and Annotation
>
><<File: comdes2.doc>>
>Dear Task Force Members,
>
>1. Thank you!
> I'd like to thank those who commented on my draft on Functions of
> Codes of Ethics and who contributed to annotating the code. I would
> especially like to thank Ed for his effort.
>
>2. Baseline Document
> As you may recall, the plan was, while you are commenting on the
> Functions of Code paper, I would be collating your contributions to
> annotating the codes and writing a description of its architecture and
> then I would distribute a draft of this document to you for you
> comments. The working copy of that document is attached. In the
> interest of good configuration management please use this as the base
> from which we work and send your comments to the list or to me. The
> twelve codes we have used in the comparison are sufficient to
> demonstrate the roots of the proposed codes in other relevant
> professional codes. We have integrated Ed's results into the baseline
> document. The comparison is set up as a table for ease of comparison
> between codes and code elements. The table is attached as a Microsoft
> Word Document.

>
>3. Complete Consensus Functions paper
> While you are reviewing the this code comparison and making
> comments, I will be revising the Functions paper in the light of your
> comments. This will get us well on the way to completing the tasks set
> for us by the Steering Committee.
>
>4. Additional Help and Suggested Code Modifications
> I am fortunate to be at the Centre for Computing and Social
> Responsibility this semester, which is supplying both intellectual and
> clerical support for this effort. We have received many comments on
> the draft code. We are integrating the comments with the code and
> making some of the tentative changes to the code based on these
> comments. That document should be ready for distribution to you for
> comment shortly.
>
>5. Tentative Plan
> The process of completing a code of ethics and getting it accepted by
> professional societies is a complex process. In broadest terms, the next
> steps are: 1 to submit a revised code to the steering committee for
>review
> and comment, 2. Revise the code in the light of their comments, 3.
> Circulate the code more widely for comment and revise accordingly. 4.
> Print the Code in the ACM and IEEE publications with a survey asking
> for comments and voting on each item. This will include a request for
> revision of an code element when there is disagreement. 5. Revisit the
> code in the light of these comments and votes. 6. This step will be
> determined by the results of 5. A more detailed plan is forthcoming.
>
>6, Thanks again for you help.
>
>Regards,
>
>Don
>=====

>
>Revision of
>DRAFT DOCUMENT RELATING
>COMPUTING, ENGINEERING, AND SOFTWARE ENGINEERING CODES. v2 30
Jan 1997

>
> The Architecture of the Draft Software Engineering Code of
> Ethics and Its Relations to other Codes of Ethics
> Gotterbarn & Rogerson
> Centre for Computing and Social Responsibility
>

>This document was developed in response to a request for the IEEE-CS/ACM
>Joint Steering Committee for The Professionalization of Software Engineering.
>The architecture of the draft Software Engineering Code of Ethics (SECEv1)
>has been modified in the light of comments from the software engineering and
>computer ethics communities. It should be noted that we use the term software
>engineer to include the entire software engineering community; those software
>engineers practicing in the private and public sector and those in software
>engineering education.

>

>The structure of SECEv1 was modeled on the format of the National Society
>of Professional Engineers Code of Ethics(NSPE) in so far as it addresses
>the various ethical responsibilities of the professional in terms of the
>particular relationships in which the professional stands. Thus the first
>version was organized around the software engineer's obligations in
>product development, obligations to the public, obligations to use
>professional judgement, obligations to the client and the employer,
>obligations to the profession of software engineering, obligations to
>colleagues, and obligation to self as a practicing professional. Each of
>these relationships carry different ethical obligations and the practicing
>professional must be cognizant of all of these obligations. Following this
>code Following the NSPE code closely led to many of the statements in the
>SECEv1 closely resembling statements in NSPE (See attached table below for
>details of this relationship).

>

>The committee then examined other codes including: The ACM Code of Ethics
>and Professional Conduct, The IEEE Code of Ethics, Project Management
>Institute Code of Ethics for the Project Management Profession,. American
>Institute of Certified Public Accountants Professional Standards Manual,
>PA State Registration Board of Professional Engineers, Land Surveyors and
>Geologists The Code of Ethics and the Law, and The Unwritten Laws of
>Engineering by W. J. King American Society of Mechanical Engineers. The
>members of the committee used these and other codes as models for elements
>that they thought ought to be included in a code of ethics for software
>engineers.

>

>SECEv1 was then distributed beyond the committee for comment. In the light
>of those comments and further work by the committee, the structure of the
>code has been revised to reflect more closely some significant aspects of
>other
>engineering and computing codes that were not included in SECEv1.

>

>Many codes, such as the British Computer Society's Code of Conduct and
>Code of Practice, and the ACM's Code of Ethics and Professional conduct,
>include a preamble describing the roles and functions of the code for the
>practicing professional. These generally include a description of the use
>of the code and some very high level ethical imperatives. They also make

>clear that codes of ethics are to be used as guidelines for conduct and
>not as exhaustive lists of the ethical obligations of professionals. For
>example the preamble to the British Computer Society Code of Practice
>states "The Code is to be viewed as a whole. Individual parts are not
>intended to be used in isolation to justify errors of omission or
>commission. The Code is intended to be observed in the spirit and not
>merely in the word." One of the ways to avoid this misunderstanding of
>reading the code as an ethics checklist is to organize the code into a
>hierarchy of Canons, Rules, Principles, or Ethical Imperatives which form
>the top level of a hierarchy and attach at lower levels guidelines which
>by way of example make clear the intent of the top level principles. The
>structure of SECEv1 has been revised in accordance with this model.

>
>SECEv2 starts with a preamble explaining the roles and functions of the
>code. The Preamble is followed by a set of 7 principles based on the
>relationship in which a software engineer has ethical obligations. These
>principles are tied to key words indicating the relationship. The use of
>key words is a powerful memory guide for the code. Limiting the main body
>of the code to these seven principles will make it easier to remember and
>make the code more reflective of the impact of changing technology on the
>breadth of ethical obligations of the practicing software engineer. For
>each principle there are several specific examples (many drawn from other
>codes) which show what these principles require when put in practice.
>This division of the code makes it consistent with the three levels of
>professional obligation defined in "Functions of Codes of
>Ethics"(attached), namely the code contains level 1 ethical obligations
>based on the humanity of the professional, level 2 ethical obligation
>based on the higher order of care due by all professionals, and level 3
>obligations which are tied directly to the practice of the profession.

>
>As other professions have realized, in developing a code one cannot leave
>out obligations that are common to all professions and only consider level
>three- software engineering practice- obligations. To leave out level 1
>and level 2 obligations reduces software engineering from a profession to
>a technical practice The revised structure of SECEv1 makes the code
>comprehensive in that it includes both generic items and profession
>specific items. Anything short of this would be meaningless and useless
>in the emergence of software engineering as a profession.

>
>The following table compares 12 different codes of ethics, conduct and
>practice to the preliminary version of the Software Engineering Code of
>Ethics(SECEv1). In the 12 codes, four are from computer organizations,
>five from engineering organizations and the IEEE code which also covers
>the IEEE- CS.

>
>The original purpose of documenting the architecture of the code to show

>which parts are derived from other codes and which parts are unique to
>software engineering presumed that there are clear lines of demarcation
>between engineering, computing, and software engineering. The results of
>this study into computing and engineering codes of ethics are not
>consistent with that presumption.
>
>Several studies have shown that codes of ethics operate on many levels.
>On the highest level-imperatives grounded in our common humanity-- most
>codes contain ethical principles of honesty and integrity(Level 1). SECEv1
>has this kind of imperative in common with all of the other codes
>examined. Professional codes of ethics also have in common the
>professional's commitment to a higher level of care(Level 2). These
>obligations of all professions and practicing professionals are stated in
>terms of commitment to the public interest over self-interest. Again all
>of the codes have similar imperatives about professionals having a higher
>order of obligation to the public they serve rather than having the kind
>of moral obligation demanded of the general public.
>
>The major difference between codes occurs at level 3; the statement of
>obligations specific to a particular profession. Some imperative may be
>stated in terms of level 1 in one code while they are stated at level 3 in
>another code. For example Rule 7 of SECEv1 is compared with IEEE 6. IEEE
>6 states the professional obligation "...to maintain and improve technical
>competence and to undertake technological tasks for others only if
>qualified by training or experience." while Rule 7 addresses the same
>moral obligation at level 3 and talks about more specific competencies
>within the practice of software engineering. 7.0-7.6 are software
>engineering specific (level 3) obligations to maintain knowledge in
>particular software engineering areas. Most of the cross references for
>7.0-7.6 refer to a single level 2 admonition to keep current in your
>profession. The difference between codes occurring primarily at level 3
>also helps explain the sparse number of cross references to Rule 1 SECEv1
>which is software product specific.
>
>Most of the imperatives in SECEv1 are in several of the codes of ethics
>used for comparisons. At the moment some imperatives are contained mostly
>in engineering codes (the outer columns of the chart) and some imperatives
>are contained mostly in computing codes (the inner columns of the chart).
>Those elements which currently are sparsely reflected in engineering and
>computer codes have to do with management issues and some very specific
>imperatives, some of which are technical issues in software engineering.
>As the code develops, to include elements that recognize the role of teams
>in software engineering, there will be more elements at level 3 which
>distinguish SECEv2 from both computing and engineering codes.
>
>

>Table is attached as a MS WORD 6.0 document.
>
>
>*****TEMPORARY ADDRESS CHANGE*****
>Don Gotterbarn
>Centre for Computing and Social Responsibility
>DeMontfort University,
>School of Computing Sciences
>Leicester LE1 9BH, UK
>
>

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Friday, January 31, 1997 10:34 AM
To: Multiple recipients of list PRFCMP-L
Subject: Code Arch and Annotation

<<File: comdes2.doc>>

Dear Task Force Members,

1. Thank you!

I'd like to thank those who commented on my draft on Functions of Codes of Ethics and who contributed to annotating the code. I would especially like to thank Ed for his effort.

2. Baseline Document

As you may recall, the plan was, while you are commenting on the Functions of Code paper, I would be collating your contributions to annotating the codes and writing a description of its architecture and then I would distribute a draft of this document to you for your comments. The working copy of that document is attached. In the interest of good configuration management please use this as the base from which we work and send your comments to the list or to me. The twelve codes we have used in the comparison are sufficient to demonstrate the roots of the proposed codes in other relevant professional codes. We have integrated Ed's results into the baseline document. The comparison is set up as a table for ease of comparison between codes and code elements. The table is attached as a Microsoft Word Document.

3. Complete Consensus Functions paper

While you are reviewing the this code comparison and making comments, I will be revising the Functions paper in the light of your comments. This will get us well on the way to completing the tasks set for us by the Steering Committee.

4. Additional Help and Suggested Code Modifications

I am fortunate to be at the Centre for Computing and Social Responsibility this semester, which is supplying both intellectual and clerical support for this effort. We have received many comments on the draft code. We are integrating the comments with the code and making some of the tentative changes to the code based on these comments. That document should be ready for distribution to you for comment shortly.

5. Tentative Plan

The process of completing a code of ethics and getting it accepted by professional societies is a complex process. In broadest terms, the next steps are: 1. to submit a revised code to the steering committee for review and comment, 2. Revise the code in the light of their comments, 3. Circulate the code more widely for comment and revise accordingly. 4. Print the Code in the ACM and IEEE publications with a survey asking for comments and voting on each item. This will include a request for revision of a code element when there is disagreement. 5. Revisit the code in the light of these comments and votes. 6. This step will be determined by the results of 5. A more detailed plan is forthcoming.

6. Thanks again for your help.

Regards,

Don

=====

Revision of

DRAFT DOCUMENT RELATING

COMPUTING, ENGINEERING, AND SOFTWARE ENGINEERING CODES. v2 30

Jan 1997

The Architecture of the Draft Software Engineering Code of
Ethics and Its Relations to other Codes of Ethics
Gotterbarn & Rogerson
Centre for Computing and Social Responsibility

This document was developed in response to a request for the IEEE-CS/ACM Joint Steering Committee for The Professionalization of Software Engineering. The architecture of the draft Software Engineering Code of Ethics (SECEv1) has been modified in the light of comments from the software engineering and computer ethics communities. It should be noted that we use the term software engineer to include the entire software engineering community; those software engineers practicing in the private and public sector and those in software

engineering education.

The structure of SECEv1 was modeled on the format of the National Society of Professional Engineers Code of Ethics (NSPE) in so far as it addresses the various ethical responsibilities of the professional in terms of the particular relationships in which the professional stands. Thus the first version was organized around the software engineer's obligations in product development, obligations to the public, obligations to use professional judgement, obligations to the client and the employer, obligations to the profession of software engineering, obligations to colleagues, and obligation to self as a practicing professional. Each of these relationships carry different ethical obligations and the practicing professional must be cognizant of all of these obligations. Following this code Following the NSPE code closely led to many of the statements in the SECEv1 closely resembling statements in NSPE (See attached table below for details of this relationship).

The committee then examined other codes including: The ACM Code of Ethics and Professional Conduct, The IEEE Code of Ethics, Project Management Institute Code of Ethics for the Project Management Profession,. American Institute of Certified Public Accountants Professional Standards Manual, PA State Registration Board of Professional Engineers, Land Surveyors and Geologists The Code of Ethics and the Law, and The Unwritten Laws of Engineering by W. J. King American Society of Mechanical Engineers. The members of the committee used these and other codes as models for elements that they thought ought to be included in a code of ethics for software engineers.

SECEv1 was then distributed beyond the committee for comment. In the light of those comments and further work by the committee, the structure of the code has been revised to reflect more closely some significant aspects of other engineering and computing codes that were not included in SECEv1.

Many codes, such as the British Computer Society's Code of Conduct and Code of Practice, and the ACM's Code of Ethics and Professional conduct, include a preamble describing the roles and functions of the code for the practicing professional. These generally include a description of the use of the code and some very high level ethical imperatives. They also make clear that codes of ethics are to be used as guidelines for conduct and not as exhaustive lists of the ethical obligations of professionals. For example the preamble to the British Computer Society Code of Practice states "The Code is to be viewed as a whole. Individual parts are not intended to be used in isolation to justify errors of omission or commission. The Code is intended to be observed in the spirit and not merely in the word." One of the ways to avoid this misunderstanding of reading the code as an ethics checklist is to organize the code into a

hierarchy of Canons, Rules, Principles, or Ethical Imperatives which form the top level of a hierarchy and attach at lower levels guidelines which by way of example make clear the intent of the top level principles. The structure of SECEv1 has been revised in accordance with this model.

SECEv2 starts with a preamble explaining the roles and functions of the code. The Preamble is followed by a set of 7 principles based on the relationship in which a software engineer has ethical obligations. These principles are tied to key words indicating the relationship. The use of key words is a powerful memory guide for the code. Limiting the main body of the code to these seven principles will make it easier to remember and make the code more reflective of the impact of changing technology on the breadth of ethical obligations of the practicing software engineer. For each principle there are several specific examples (many drawn from other codes) which show what these principles require when put in practice. This division of the code makes it consistent with the three levels of professional obligation defined in "Functions of Codes of Ethics"(attached), namely the code contains level 1 ethical obligations based on the humanity of the professional, level 2 ethical obligation based on the higher order of care due by all professionals, and level 3 obligations which are tied directly to the practice of the profession.

As other professions have realized, in developing a code one cannot leave out obligations that are common to all professions and only consider level three- software engineering practice- obligations. To leave out level 1 and level 2 obligations reduces software engineering from a profession to a technical practice. The revised structure of SECEv1 makes the code comprehensive in that it includes both generic items and profession specific items. Anything short of this would be meaningless and useless in the emergence of software engineering as a profession.

The following table compares 12 different codes of ethics, conduct and practice to the preliminary version of the Software Engineering Code of Ethics(SECEv1). In the 12 codes, four are from computer organizations, five from engineering organizations and the IEEE code which also covers the IEEE- CS.

The original purpose of documenting the architecture of the code to show which parts are derived from other codes and which parts are unique to software engineering presumed that there are clear lines of demarcation between engineering, computing, and software engineering. The results of this study into computing and engineering codes of ethics are not consistent with that presumption.

Several studies have shown that codes of ethics operate on many levels. On the highest level-imperatives grounded in our common humanity-- most

codes contain ethical principles of honesty and integrity(Level 1). SECEv1 has this kind of imperative in common with all of the other codes examined. Professional codes of ethics also have in common the professional's commitment to a higher level of care(Level 2). These obligations of all professions and practicing professionals are stated in terms of commitment to the public interest over self-interest. Again all of the codes have similar imperatives about professionals having a higher order of obligation to the public they serve rather than having the kind of moral obligation demanded of the general public.

The major difference between codes occurs at level 3; the statement of obligations specific to a particular profession. Some imperative may be stated in terms of level 1 in one code while they are stated at level 3 in another code. For example Rule 7 of SECEv1 is compared with IEEE 6. IEEE 6 states the professional obligation "...to maintain and improve technical competence and to undertake technological tasks for others only if qualified by training or experience." while Rule 7 addresses the same moral obligation at level 3 and talks about more specific competencies within the practice of software engineering. 7.0-7.6 are software engineering specific (level 3) obligations to maintain knowledge in particular software engineering areas. Most of the cross references for 7.0-7.6 refer to a single level 2 admonition to keep current in your profession. The difference between codes occurring primarily at level 3 also helps explain the sparse number of cross references to Rule 1 SECEv1 which is software product specific.

Most of the imperatives in SECEv1 are in several of the codes of ethics used for comparisons. At the moment some imperatives are contained mostly in engineering codes (the outer columns of the chart) and some imperatives are contained mostly in computing codes (the inner columns of the chart). Those elements which currently are sparsely reflected in engineering and computer codes have to do with management issues and some very specific imperatives, some of which are technical issues in software engineering. As the code develops, to include elements that recognize the role of teams in software engineering, there will be more elements at level 3 which distinguish SECEv2 from both computing and engineering codes.

Table is attached as a MS WORD 6.0 document.

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences

Leicester LE1 9BH, UK

From: Mechler, Edmund
Sent: Friday, January 31, 1997 10:29 AM
To: Multiple recipients of list PRFCMP-L
Subject: Code Annotation

There appears to be some problem with
the SEEPP List sending my annotated
copy of the Code. If you didn't get it please
let me know at
emechler@eri.eqt.com
Ed

From: Mechler, Edmund
Sent: Friday, January 31, 1997 10:29 AM
To: 'SEEPP LIST'
Subject: Code Annotation

There appears to be some problem with
the SEEPP List sending my annotated
copy of the Code. If you didn't get it please
let me know at
emechler@eri.eqt.com
Ed

From: Mechler, Edmund
Sent: Friday, January 31, 1997 10:27 AM
To: 'Vivian Weil'
Subject: RE:

It has something to do with the list. I am on the list
twice using CompuServe and Exchange and both
came with a warning about MIME. But I received
both. Here is another copy. Let me know if you
received it.
Ed

<<File: seCODref.txt>>

From: Vivian Weil[SMTP:weil@charlie.cns.iit.edu]
Sent: Friday, January 31, 1997 10:07 AM
To: Mechler, Edmund

ED:
SOS. The Code of Ethics annotated toward other codes was not attached.
Instead came the words "Unable to print this part".

Vivian Weil

Vivian Weil, Director phone: (312)567-3472
Center for the Study of Ethics in the Professions fax: (312)567-3016
Illinois Institute of Technology weil@charlie.cns.iit.edu
10 W. 31st Street, Rm. 102 Stuart Building
Chicago, IL 60616-3793

From: Mechler, Edmund
Sent: Friday, January 31, 1997 8:23 AM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Code Annotation

Why don't you just add it to code and annotations if
time permits and pass around again. Maybe more
will get involved. Thanks for the schedule but this is
the old one. I thought from the message from the
exec comm that Don was to produce another and I
might have missed it. Looks like it was not
distributed.

Ed

>-----
>From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
>Sent: Thursday, January 30, 1997 12:05 PM
>To: Multiple recipients of list PRFCMP-L
>Subject: Re: Code Annotation
>
> You could add to the additional references:
>
> "Morality in Accounting" by Riahi Belkaoui.

>
> Some of the stuff I submitted comes from reading the first few
> chapters of the above.
>
> Manny.
>

From: Mechler, Edmund
Sent: Friday, January 31, 1997 8:23 AM
To: 'Professional Competence Standards Task Force'
Subject: RE: Code Annotation

Why don't you just add it to code and annotations if time permits and pass around again. Maybe more will get involved. Thanks for the schedule but this is the old one. I thought from the message from the exec comm that Don was to produce another and I might have missed it. Looks like it was not distributed.
Ed

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Thursday, January 30, 1997 12:05 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Code Annotation

You could add to the additional references:

"Morality in Accounting" by Riahi Belkaoui.

Some of the stuff I submitted comes from reading the first few chapters of the above.

Manny.

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Thursday, January 30, 1997 12:16 PM
To: Mechler, Edmund

Is this the schedule you want I don't seem to have any other item in the folder with a schedule. But I also have a subdirectory with some stuff.

I'll check it out if this is not what you are looking for.

Manny.

From: IN% "gotterba@seasva.gwu.edu" "Don Gotterbarn" 18-DEC-1996 01:18:28.18
To: IN% "d.gotterbarn@computer.org" "seep workgroup leaders",
IN% "jclittle@midget.towson.edu", IN% "mcfarlan@bcux2.bc.edu",
IN% "miller@eagle.uis.edu", IN% "psullivan@brook.edu", IN% "sbarber@panix.com",
IN% "sweisband@bpa.arizona.edu", IN% "76105.3332@compuserv
CC: IN% "caberera@microsoft.com", IN% "frailey@skopen.dsg.ti.com"
Subj: code of ethics, the next step

Dear Task force members,

It is time to move the code to the next steps. It has been circulated to several groups including the steering committee. It is evident from the comments that we need to do some foundation building.

The steering committee would like to see the relation of this code to other relevant professional codes. I know many of the imperatives were derived from other professional codes. I would appreciate it if you could send me the references for particular imperatives. I will write up a report which describes the roots of the code in other professional engineering and management codes. Then we can identify those elements or combination of elements which have been added to the code to make it a software engineering code.

Comments we have received seem to be based on conflicting views about the function of a code of ethics. Some reject the educational function of a code in educating society and new members about the goals and values of a profession and so have criticized several of the imperatives as "common sense for any practicing engineer". Others have objected to any imperative which is not amenable to clear measurement, which is needed to legally determine if someone has violated the code. Others have objected to competence imperative. Achieving consensus is difficult given this diversity of views about the nature role and structure of codes. In the next two weeks I will write a brief document on the roles, functions, and structures of codes of ethics in the professions. I will then circulate it for your comment. The document will be revised to establish a consensus within our group.

While you are reviewing the document about codes, I will organize the references about the origin of several of the imperatives into a document which shows the foundations of this code in other codes.

Once we have a clear consensus about the function and structure of the code, I would like to produce a revised draft of the code which is consistent with this consensus, in time for the February meeting of the steering committee. This could then be submitted for their comment. After revising the code in the light of these comments it should be circulated as a draft for comment to a larger professional audience. We found this a effective way to achieve consensus in developing the ACM code.

The plan:

By the first week in January

send references to sources for imperative in draft code to Don.

(Don) write draft statement about professional codes

By Mid January

comment on draft about codes

(Don) distribute statement about relationship of SE code to other codes

By beginning of February

Achieve consensus on structure of code and start to revise it in the light of that consensus.

Finalize description about foundations of the code and roles of the code.

By Mid February

Revised draft of code ready for comment by Steering Committee.

By the middle of March

Have a discussion draft ready for distribution on the net and in professional journals

Have survey form ready for distribution with the code.

I know this is a lot to ask during this time of year, but we have at last achieved something positive with the draft code and if we lose this momentum I am concerned that we will lose all credibility. But even more importantly, if we don't get the job done the concept of professional ethical standards will also lose credibility.

I look forward to getting your responses.

With thanks for your effort and best regards,

don

ps. Have a safe and healthy holiday season!

<< TEMPORARY (July 96-Jan 97) ADDRESS CHANGE >>

=====

Don Gotterbarn 703-729-8245, Fax 703-729-8251

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Suite 227
20101 Academic Way, Ashburn VA 20147
gotterba@seasva.gwu.edu

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Leesburg, VA 20176-5278
703-777-6885

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Thursday, January 30, 1997 12:08 PM
To: Mechler, Edmund
Subject: Re: Ethics Code

Yes, I received the annotated code, and replied hoping to add a late entry.

I need to look at the latest messages in my "profcomp" folder to see which one is the schedule, and I will forward it to you.

Manny.

From: Mechler, Edmund
Sent: Thursday, January 30, 1997 11:25 AM
To: 'Manny Norman, Sr. Sys. Prgmr., LT'
Subject: RE: Ethics Code

Can you send me a copy of the schedule?
Did you get the annotated code?
Ed

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Thursday, January 30, 1997 10:58 AM
To: Mechler, Edmund
Subject: Re: Ethics Code

Yes, I believe I did get the additional schedule. I need to go over it. I'll see if I can do it this weekend.

Manny.

From: Mechler, Edmund
Sent: Thursday, January 30, 1997 10:36 AM
To: 'Donald Gotterbarn'
Subject: Code

Don

I sent the annotated version of the Code; did

you get it?

A couple of questions?

1. What was the intent of the statement:

"We understand that for a variety of good reasons, many members of this task force have been unable to participate at the level originally planned." in Felipe and Dennis e-mail you forward to us?

2. What is the plan for the rest of the year they requested in the same e-mail? I do not know if you sent anything yet.

Ed

From: Mechler, Edmund
Sent: Thursday, January 30, 1997 9:53 AM
To: Multiple recipients of list PRFCMP-L
Subject: Code Annotation

<<File: seCODref.txt>>

Volunteers

Attached for your review, in text format, is the Code of Ethics annotated toward other Codes.

First a few comments about the annotation: Legend included in attachment. Some of the references are:

- Exactly as stated in another code
- Paraphrased from other codes
- Expanded for SE from other codes
- Idea generators from other codes.

Therefore, as you review you may decide another reference within the codes annotated is better. Please add it. If you disagree with one, e-mail me or the group and we will discuss it. If you have additional codes not mentioned, please add the references.

Ed

From: L-Soft list server at Univ. of Tenn., Knoxville
(1.8b)[SMTP:LISTSERV@UTKVM1.UTK.EDU]
Sent: Thursday, January 30, 1997 3:44 AM
To: Mechler, Edmund
Subject: Output of your job "EMechler"

> query prfcmp-l
Subscription options for Ed Mechler <emechler@ERIEQT.COM>, list PRFCMP-L:

MAIL You are sent individual postings as they are received
FULLHDR Full (normal) mail headers (formerly "FULLBSMTP")
REPRO You receive a copy of your own postings
NOACK No acknowledgement of successfully processed postings

Summary of resource utilization

CPU time: 0.035 sec Device I/O: 4
Overhead CPU: 0.012 sec Paging I/O: 0
CPU model: 9672 DASD model: 3380

From: Mechler, Edmund
Sent: Wednesday, January 29, 1997 4:11 PM
To: 'Manny Norman, Sr. Sys. Prgmr., LT'
Subject: RE: Ethics Code

I think of myself some what as an anarchist plus other things;
my desk is clean but the drawers are something else.
I will be sending mine out tomorrow after one more review.
I will keep yours as "additional references" in case you can
not get to it. If you wish you could add on to mine.
You said you may not get t done on time; the only dead
line I have is Feb 14th. Did you get the additional
schedule mentioned in the forward e-mail from Don?
Ed

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Wednesday, January 29, 1997 2:45 PM
To: Mechler, Edmund
Subject: Re: Ethics Code

Thanks. Somehow I like think of myself as a bit of an anarchist, and the idea of being organized doesn't seem to fit in!. If you could see my desk, both at work and at home, you would know what I mean.

Manny.

From: Mechler, Edmund
Sent: Wednesday, January 29, 1997 11:11 AM
To: 'Manny Norman, Sr. Sys. Prgmr., LT'
Subject: RE: Ethics Code

Maybe you can annotate Dons e-mail of 1/7/97 and put it to the list. I will do the same with mine. Who said we are not organized?
ED

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Wednesday, January 29, 1997 11:09 AM
To: Mechler, Edmund
Subject: Re: Ethics Code

Good news. I have the original that I sent you and it has references to sections and paragraph numbers from the AICPA Manual and also page numbers for references to "Morality in Accounting".

Apparently, I'm more organized than I thought!

If you want another copy I can mail it to you.

Manny.

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Wednesday, January 29, 1997 10:36 AM
To: Mechler, Edmund
Subject: Re: Ethics Code

I should have a copy buried somewhere in this system. I'll check and let you know shortly.

Manny.

From: Mechler, Edmund
Sent: Wednesday, January 29, 1997 8:54 AM
To: 'Manny Norman, Sr. Sys. Prgmr., LT'
Subject: RE: Ethics Code

Manny
Do you still have a copy of what you sent me?
I do if you want it. It does have numerical reference
but I am not sure if you used the ones from the
book or just to organize.
Ed

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Wednesday, January 29, 1997 8:39 AM
To: Mechler, Edmund
Subject: Re: Ethics Code

Actually, if I remember, most of what I wrote was paraphrased rather than extracted, but I remember that the items did have some specific numerical paragraph references. I believe I still have the original notes I took; I remember moving them around recently in one of my periodic "re-organizatins" of my computer room at home. I'll go over it again this week and, if necessary, will visit the library again to check the references.

Manny.

From: Mechler, Edmund
Sent: Wednesday, January 29, 1997 8:20 AM
To: 'Manny Norman, Sr. Sys. Prgmr., LT'
Subject: RE: Ethics Code

Manny
If you want to try ok. I originally checked yours
against what we had and added some. Now
I am putting in the exact item from five references.
I can not find an exact reference from yours because
they are extracts. I am going to reference other areas.
Do you want me to put it in there? This is taking forever.

Have you heard anything from the list since Don sent his last e-mail? Also I should send out the references by the end of the week; let me know if you get them.
Ed

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@online.emich.edu]
Sent: Tuesday, January 28, 1997 5:10 PM
To: Mechler, Edmund
Subject: Re: Ethics Code

I don't have the manual any more. I guess I could get it from the University Library again, but I might not be able to get it done in time.

Manny.

From: Mechler, Edmund
Sent: Tuesday, January 28, 1997 3:09 PM
To: 'Norman Manny'
Subject: Ethics Code

Manny
The request from Don, dated 1/7/97, Draft Code, asked for annotation. I am doing a number of other codes but have trouble with the one you sent AICPA Standards Manual because it was extracts. Can you annotate the Code from the manual? Let me know.
Ed

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Wednesday, January 08, 1997 7:16 AM
To: Multiple recipients of list PRFCMP-L
Subject: Functions of a code of ethics draft document

Dear Task Force Member,

Below is a brief document describing the roles and functions of codes of ethics in an emerging profession. I would like to modify it so that it can provide some guidelines for us as we revise the draft code of ethics and determine how next to proceed.

I know you are all quite busy, but if you could find the time to review the document and comment on it, it would be most helpful. Your thoughtful comments on its content and style are appreciated.

regards,
don

=====

THE FUNCTIONS OF PROFESSIONAL CODES IN AN EMERGING PROFESSION: A HIERARCHY OF FUNCTIONS v0.1 Jan 8

It is important for emerging professions to develop a code of ethics. There are divergent views about such codes. From a negative standpoint some have argued that such codes are merely a self serving attempt to generate a positive public image. Others claim that such codes merely establish a moral minimum and are incomplete. As an emerging profession develops a code it is important to keep these negative judgements in mind, but it is more important to consider the positive functions of codes. Since some of these functions may be incompatible it is important to identify and to emphasize those characteristics of a code which are most important to the particular profession.

Many professional societies, such as the British Computer Society, use a hierarchy of types of code. They distinguish between codes of ethics, of conduct, and of practice. Often the failure to distinguish between the structure and roles of these different types of code has led to confusion when interpreting the code(s) of a professional organization. Some codes embody elements from all three types without clearly distinguishing which role a particular imperative is supposed to serve.

Their relationship between these types of code form a hierarchy. Codes of ethics as distinguished from codes of conduct and codes of practice are more aspirational. They are mission statements for the professional providing vision and objectives. Codes of conduct are more oriented toward the professional and professional attitudes. They do not describe details about how to carry out a particular action, but they make clear the issues at stake in different specialized fields, telecommunications, software construction etc. Codes of practice may fix some accepted state of the art (Berleur, J). Although each of these roles for a code are both normative and prescriptive, one cannot expect the same level of enforcement for each role. Codes of ethics which are primarily aspirational use no more than light coercion, while violations of codes of conduct generally carry sanctions ranging from warnings to exclusion from the profession. Violations of codes of practice may lead to legal action on the grounds of malpractice or negligence.

This hierarchy of codes parallels the three levels of professional ethics. All professionals, by virtue of their humanity share a common set of values with other human beings, e.g., honesty, and integrity. By virtue of their role as professionals and their special skills, they owe a higher order of care when working in their field than would be owed if they were not professionals. This level of ethical obligation is also shared by every professional. The third level of professional ethics is the set of distinct ethical obligations and their structure within the context of a particular profession. Professional codes of ethics need to address all three of these levels. (Gottterbarn 94)

Several professional societies in their codes and documents about them and authors on ethics have distinguished several functions and audiences for codes of ethics. A matrix, whose vertical axis is the different roles of code and whose horizontal axis consists of the significant functions of the code for the emerging profession, can be used in the development of a professional code.

The following categories encompass the functions of the codes indicated by professional societies and authors on professional issues for engineers and computer scientists.

INSPIRATION

Codes are designed to be inspirational. There are two audiences for such inspiration. Martin (M&S) emphasizes the inspiration for "positive stimulus for ethical conduct by the practitioner", while Johnson emphasizes a code's function to inspire confidence of the customer or user in the computing artifact and its creator. The use of language with positive overtones helps to generate both types of inspiration but such language also introduces a degree of vagueness which limits the ability of the code to help guide professional behavior.

Thus the inspirational function of a code has implications for the physical structure of a code. Although some people prefer brief codes, many have argued that a code which is both brief and inspirational really provides little guidance for behavior. To address this problem, organizations like the Accreditation Board of Engineering and Technology, American Society of Civil Engineers, and the Association for Computing Machinery have developed codes which are accompanied by a set of guidelines which can

appear separately or intermeshed with the basic imperatives.

GUIDANCE

Historically, there has been a transition away from regulatory codes designed to penalize divergent behavior and internal dissent, toward codes which are more normative; Such normative codes are only a partial representation of the ethical standards of the profession's members.(Anderson 1994, Gotterbarn 1996)

These more normative codes are not considered as exhaustive lists of rights or wrongs; nor are they considered algorithms to decide what is wrong.. The use of normative codes requires moral judgement on part of professional. Professional societies provide help in difficult moral cases;

the American Bar Association publishes opinions on difficult cases and the Board of Ethical Review of the National Society of Professional Engineers publishes opinions on how the code can be applied to specific cases. A sense of moral responsibility is needed for the application of the code to concrete situation.

EDUCATION

Most authorities on codes emphasize the educational function of codes. They serve to educate both prospective members and existing member of a profession.

Codes educate them about the shared commitment of the members of a particular profession to do a certain quality of work and be concerned about the well being of the customer and user of the developed product.

They also serve to educate the managers of the professional about expected behavior. The manager's expectations will have an effect on what is asked of the professional. Directly and indirectly codes educate management about their responsibility for effects of the products developed.

Codes also serve a function of indirectly educating the public at large about what the professionals consider to be a minimal acceptable practice in that field, even if practiced by a non-professional.

SUPPORT FOR POSITIVE ACTION

Codes provide a level of support for the engineer who decides to take positive action. They provide an environment in which it will be easier than it would otherwise be to resist pressure to do what the engineer would rather not do. The appeal to the imperatives of a code can be used as a counter pressure to urging by others to have the professional

act in

ways inconsistent with a pattern of behavior supported by a consensus of the profession. The effectiveness of appeals to a code are related to the type of sanctions related to violations of the code. For example doctors are encouraged to write prescriptions in accordance with legal guidelines. Recent failures to follow these standards has recently led to 900 physicians no longer being allowed to write prescriptions.

DETERRENCE AND DISCIPLINE

This is the other side of the support for positive action. Codes can serve as a formal basis for action against a professional. Some organizations revoke membership or suspend licenses to practice.

ENHANCE PROFESSION'S PUBLIC IMAGE

Some codes specify a minimal standard of conduct. Sometimes this is done at great ethical cost. Codes have been used to prohibit public criticism of fellow professionals even if they violated some ethical standard. Some codes emphasize blind loyalty to the company or client without recognition that such loyalty often conflicts with other imperatives of a code, such as "cause no harm".

For an emerging profession, some of these functions are more critical than others. The choice of function will give the code its own character. Because many software engineering projects are team projects and the software engineer is not always in a decision making position, the support function is very important. Since the profession is an emerging one, the educational and inspirational functions are also important. At this stage of the development of software engineering the disciplinary function is being taken over by the law. In most contemporary codes, the attempt to keep a perfect public image at the expense of quality development has been abandoned. For example both the IEEE-CS and ACM codes require that a professional encourages adherence to the code and calls attention to significant violations of the code.

It is the first four functions which should be addressed in the development of a software engineering code of ethics.

References

- Anderson R. "The ACM Code of Ethics: History, Process, and Implications," in Huff and Finholt 1995.
- J. Berleur, et al, "Codes of Ethics or of Conduct within IFIP and in Other computer societies", Proceedings 13 World Computer Congress.
- Gotterbarn, D. "Software Engineering Ethics," Encyclopedia of Software Engineering 1994, ed John Marciniak.
- Gotterbarn D. "Software Engineering: the new professionalism"

PASE '96

Johnson, D. Computer Ethics, 2nd ed. 1995
Johnson D. Engineering Ethics, 1996
Martin, M.W. et al, Ethics in Engineering, 2nd ed.1989.

*****TEMPORARY ADDRESS CHANGE*****

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DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Tuesday, January 07, 1997 11:30 AM
To: Multiple recipients of list PRFCMP-L
Subject: DRAFT CODE

Dear task force members,

Below is a draft copy of the code. As you can tell from yesterdays steering committe message, on of the things that need to be done is to associate imperatives in this code with imperatives in other codes, especially computing, data processing, and engineering codes.

It would be helpful if you could annotate the code with references to similar or identical imperatives in other codes. Thanks for your help.

I should have a draft of the codes of ethics statemnt to you by tommorrow.

regards,
don

*****TEMPORARY ADDRESS CHANGE*****

Don Gotterbarn
Centre for Computing and Social Responsibility
DeMontfort University,
School of Computing Sciences
Leicester LE1 9BH, UK

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CODE OF ETHICS FOR SOFTWARE ENGINEERS v1.0 September 1996

INTRODUCTION

Computers now have a central and growing role in commerce, industry, government, medicine, entertainment, and ordinary life.

Because the utility of computers depends in large part on the instructions written for them, those who design, develop, and test software have enormous opportunities both to do good and to cause harm. To assure, as much as possible, that this power will be used for good, software engineers commit themselves to making the design, development, and testing of software a distinct, beneficial, and respected profession. In accordance with that commitment, software engineers shall adhere to the following standards of conduct. The seven main paragraphs state general rules. Each subsidiary clause is a specific application of its general rule, one experience has shown needs express statement; but no set of subsidiary clauses exhausts the general rule.

Rule 1: **PRODUCT**. Software engineers shall, insofar as possible, assure that the software on which they work is useful to public, employer, customer, and user, completed on time and at reasonable cost, and free of significant error. In particular, software engineers shall, as appropriate:

- 1.01. Assure that specifications for software on which they work have been put in writing, satisfy the user's requirements, and have the customer's approval.
- 1.02. Assure that they understand fully the specifications for software on which they work.
- 1.03. Assure that they are qualified, by education and experience, for any project on which they work.
- 1.04. Assure proper goals and objectives for any project on which they work.
- 1.05. Assure proper development methodology on any project on which they work.
- 1.06. Assure proper management on any project on which they work, including proper procedures for control of quality and risk.
- 1.07. Assure proper estimates of cost, schedule, personnel, and outcome on any project on which they work.
- 1.08. Assure adequate documentation on any project on which they work, including a log of problems discovered and solutions adopted.
- 1.09. Assure proper testing, debugging, and review of software and related documents on which

they work.

- 1.10. Assure that software and related documents on which they work respect the privacy of those who will be subject to the software.
- 1.11. Assure that raw information used in software is accurate, derives from a legitimate source, and is used only in ways properly authorized.
- 1.12. Assure ethical, economic, cultural, legal, and environmental issues are properly identified, defined, and addressed.
- 1.13. Promote maximum productivity and minimum cost to employer, customer, user, and public.
- 1.14. Avoid fads, departing from standard practices only when justified.

Rule 2: PUBLIC. Software engineers shall, in their professional role, act only in ways consistent with the public safety, health and welfare. In particular, software engineers shall:

- 2.01. Disclose to appropriate persons any danger that the software or related documents on which they work may pose to the user, a third party, or the environment.
- 2.02. Approve software only if they have a well-documented belief that it is safe, meets specifications, and has passed all appropriate tests.
- 2.03. Affix their signature only to documents prepared under their supervision and within their areas of competence.
- 2.04. Cooperate in efforts to correct problems in software or related documents.
- 2.05. Be fair and truthful in all public statements concerning software or related documents.
- 2.06. Not put self-interest, the interest of an employer, or the interest of a client or customer ahead of the public's interest.
- 2.07. Accept full responsibility for their own work.

Rule 3: JUDGMENT. Software engineers shall, insofar as possible, protect both the independence of their professional judgment and their reputation for such judgment. In particular, software engineers shall, as appropriate:

- 3.01. Maintain professional skepticism with respect to any software or related documents they are asked to evaluate.

- 3.02. Reject bribery.
- 3.03. Accept no payback, kickback, or other payment from a third party to a contract, except with the knowledge and consent of all parties to the contract.
- 3.04. Accept payment from only one party for any particular project, or for services related to the same project, except when the circumstances have been fully disclosed to the parties concerned and they have given their informed consent.
- 3.05. Neither solicit nor accept a contract from a governmental body on which a principal or officer of their employer serves as a member.
- 3.06. Participate in no decision of a governmental or professional body, as a member or advisor, concerned with software, or related documents, in which they, their employer, or their client have a financial interest.
- 3.07. Disclose to all concerned parties those conflicts of interest that cannot reasonably be avoided or escaped.

Rule 4: CLIENT AND EMPLOYER. Software engineers shall, consistent with the public health, safety, and welfare, always act in professional matters as faithful agents and trustees of their client or employer. In particular, software engineers shall:

- 4.01. Provide service only in areas of competence.
- 4.02. Assure that any document upon which they rely has been approved by someone qualified to approve it.
- 4.03. Use the property of a client or employer only in ways properly authorized.
- 4.04. Not knowingly use pirated software on equipment of a client or employer or in work performed for a client or employer.
- 4.05. Keep as confidential information gained in their professional work that is not properly in the public domain.
- 4.06. Identify, document, properly report to employer or client any problem in the software or related documents on which they work.
- 4.07. Inform client or employer promptly if, in their opinion, a project is likely to fail, to prove too expensive, to violate copyright laws, or otherwise to turn out badly.
- 4.08. Accept no outside work detrimental to the work they perform for their primary employer.
- 4.09. Represent no interest adverse to their

employer's without the employer's consent.

Rule 5: PROFESSION. Software engineers shall, in all professional matters, advance both the integrity and reputation of their profession. In particular, software engineers shall, insofar as possible:

- 5.01. Associate only with reputable businesses.
- 5.02. Assure that clients, employers, and supervisors know of this code of ethics.
- 5.03. Support software engineers who do as this code requires.
- 5.04. Help develop an organizational environment favorable to acting ethically.
- 5.05. Report violations of this code to appropriate authorities.
- 5.06. Take responsibility for detecting, correcting, and reporting errors in software and associated documents on which they work.
- 5.07. Only accept a salary appropriate to professional qualifications.
- 5.08. Be accurate in stating the characteristics of software on which they work, avoiding not only false claims but claims that might reasonably be supposed to be deceptive, misleading, or doubtful.
- 5.09. Not promote their own interest at the expense of the profession.
- 5.10. Obey all laws governing their work, insofar as such obedience is consistent with the public health, safety, and welfare.
- 5.11. Serve in civic affairs constructively.
- 5.12. Improve public knowledge of software engineering.
- 5.13. Share useful software-related knowledge, inventions, or discoveries with the profession by reading papers at professional meetings, by publishing articles in the technical press, and by serving on the profession's standard-setting bodies.
- 5.14. Make no political contribution, gift, or commission for award of a contract.

Rule 6: COLLEAGUES. Software engineers shall treat all those with whom they work fairly. In particular, software engineers shall, as appropriate:

- 6.01. Assist co-workers in professional development.
- 6.02. Review the work of other professionals only with their knowledge.
- 6.03. Credit fully the work of others.
- 6.04. Criticize the work of others in an objective, candid, and properly-documented way.
- 6.05. Give a fair hearing to the opinion, concern, or complaint of a colleague.
- 6.06. Assure that employees are informed of standards before being held to them.
- 6.07. Assure co-workers know the employer's policies and procedures for protecting passwords, files, and other confidential information.
- 6.08. Assign work only upon considerations of professional qualifications.
- 6.09. Provide for due process in hearing charges of violation of an employer's policy or of this code.
- 6.10. Develop a fair agreement concerning ownership of any invention an employee makes.
- 6.11. Not supplant another software engineer after steps have been taken for employment.
- 6.12. Attract employees only by full and accurate description of the conditions of employment.
- 6.13. Offer only fair and just compensation.
- 6.14. Not prevent a subordinate from taking a better job for which the subordinate is qualified.

Rule 7: SELF. Software engineers shall, throughout their career, try to enhance their own ability to practice their profession as it should be practiced. In particular, software engineers shall continually endeavor to:

- 7.01. Improve their knowledge of recent developments in the design, development, and testing of software and related documents.
- 7.02. Improve their ability to create safe, reliable, and useful software at reasonable cost and within a reasonable time.
- 7.03. Improve their ability to write accurate, informative, and literate documents in support of software on which they work.
- 7.04. Improve their understanding of the software and related documents on which they work and of the environment in which they will be used.
- 7.05. Improve their knowledge of the law governing the

- software and related documents on which they work.
- 7.06. Improve their knowledge of this code, its interpretation, and its application to their work.

From: Laurie Werth[SMTP:lwerth@CS.UTEXAS.EDU]
Sent: Monday, January 06, 1997 12:40 PM
To: Multiple recipients of list PRFCMP-L
Subject: Re: Forwarded mail....

I would like to be added to the mail if I am not already on it.

laurie werth

From: Donald Gotterbarn[SMTP:dgot@DMU.AC.UK]
Sent: Monday, January 06, 1997 11:09 AM
To: Multiple recipients of list PRFCMP-L
Subject: Forwarded mail....

Greetings,

There have been some changes in the SEEPP task force you should be made aware of. I have been asked to direct and re-organize the efforts of our task force.(see attached memo)

There are several items assigned to us by the ACM/IEEE-CS Steering Committee which have a short deadline. In order to address these tasks I have formed a combined working group collected under a single email list called prfcmp-l. This explains why several of you have received email saying you were added to this list. Please let me know if there are others who should be added to the list.

Tomorrow I will send you a copy of the plan, I sent to the Steering Committee along with the draft code of ethics. I hope to have a draft statement of the roles and functions of professional codes of ethics to you all by Thursday.

I am now working at The Centre for Computing and Social Responsibility, DeMontfort University and can be reached at dgot@dmu.ac.uk.

To correspond with the entire group simply send mail to prfcmp-p@utkvm1.utk.edu or just reply to this not. Do not send individual mail to this list address.

More tomorrow .

regards,

don gotterbarn

----- Forwarded message -----

To: dgot@dmu.ac.uk

> Subject: Task Force on Ethics and Code of Professional Conduct
>
> To: Software Engineering Profession Steering Committee
> Task Force Chairs
> Ex-Officio Members of Steering Committee
>
> From: Felipe Cabrera and Dennis Frailey
>
> Subject: Activities of Task Force on Ethics and Code of Professional Conduct
>
> In order to expedite the remaining activities assigned to this task force,
> we have asked Don Gotterbarn to assume full chairmanship. The task
> force has the following activities to complete by February 14:
> - complete a draft code of ethics and professional conduct that
> has its roots in the codes currently in use by other engineering
> professions as well as the codes of the IEEE and the ACM
> - document the architecture of this code so that reviewers can understand
> the components, which parts are derived directly from other codes, and
> which parts are specific to software engineering
> - document the rationale for the new parts of the code (those not
> derived directly from existing codes or which depart from existing
> codes in substantive ways)
>
> Other activities for the remainder of the year will be outlined in a
> plan that Don will distribute next week.
>
> We understand that for a variety of good reasons, many members of this
> task force have been unable to participate at the level originally planned.
> We specifically authorize Don to drive the task force to completion,
> making whatever changes in membership or structure are deemed
> necessary to accomplish this task.
>
> Felipe and Dennis
>
>
>

From: L-Soft list server at Univ. of Tenn., Knoxville
(1.8b)[SMTP:LISTSERV@UTKVM1.UTK.EDU]
Sent: Wednesday, January 01, 1997 11:56 AM

To: Mechler, Edmund
Cc: Don Gotterbarn
Subject: You have been added to the PRFCMP-L list

Wed, 1 Jan 1997 16:56:18

You have been added to the PRFCMP-L mailing list (Professional Competence Standards Task Force) by Don Gotterbarn <gotterba@SEASVA.GWU.EDU>.

Please save this message for future reference, especially if you are not familiar with LISTSERV. This might look like a waste of disk space now, but in 6 months you will be glad you saved this information when you realize that you cannot remember what are the lists you are subscribed to, or what is the command to leave the list to avoid filling up your mailbox while you are on vacations. In fact, you should create a new mail folder for subscription confirmation messages like this one, and for the "welcome messages" from the list owners that you will occasionally receive after subscribing to a new list.

To send a message to all the people currently subscribed to the list, just send mail to PRFCMP-L@UTKVM1.UTK.EDU. This is called "sending mail to the list", because you send mail to a single address and LISTSERV makes copies for all the people who have subscribed. This address (PRFCMP-L@UTKVM1.UTK.EDU) is also called the "list address". You must never try to send any command to that address, as it would be distributed to all the people who have subscribed. All commands must be sent to the "LISTSERV address", LISTSERV@UTKVM1.UTK.EDU. It is very important to understand the difference between the two, but fortunately it is not complicated. The LISTSERV address is like a FAX number, and the list address is like a normal phone line. If you accidentally make your FAX call someone's voice line, the person receiving the call will be annoyed. If you do this regularly, however, your victim will probably get seriously upset and send you a nasty complaint. It is the same with mailing lists, with the difference that you are calling hundreds or thousands of people at the same time, so a lot more people get annoyed if you use the wrong number.

You may leave the list at any time by sending a "SIGNOFF PRFCMP-L" command to LISTSERV@UTKVM1.UTK.EDU. You can also tell LISTSERV how you want it to confirm the receipt of messages you send to the list. If you do not trust the system, send a "SET PRFCMP-L REPRO" command and LISTSERV will send you a copy of your own messages, so that you can see that the message was distributed and did not get damaged on the way. After a while you may find that this is getting annoying, especially if your mail program does not tell you that the message is from you when it informs

you that new mail has arrived from PRFCMP-L. If you send a "SET PRFCMP-L ACK NOREPRO" command, LISTSERV will mail you a short acknowledgement instead, which will look different in your mailbox directory. With most mail programs you will know immediately that this is an acknowledgement you can read later. Finally, you can turn off acknowledgements completely with "SET PRFCMP-L NOACK NOREPRO".

Following instructions from the list owner, your subscription options have been set to "NOACK MAIL REPRO" rather than the usual LISTSERV defaults. For more information about subscription options, send a "QUERY PRFCMP-L" command to LISTSERV@UTKVM1.UTK.EDU.

Contributions sent to this list are automatically archived. You can get a list of the available archive files by sending an "INDEX PRFCMP-L" command to LISTSERV@UTKVM1.UTK.EDU. You can then order these files with a "GET PRFCMP-L LOGxxxx" command, or using LISTSERV's database search facilities. Send an "INFO DATABASE" command for more information on the latter.

This list is available in digest form. If you wish to receive the digested version of the postings, just issue a SET PRFCMP-L DIGEST command.

IMPORTANT: This list is confidential. You should not publicly mention its existence, or forward copies of information you have obtained from it to third parties. Please note that the "GIVE" command is automatically disabled for all archive files.

Please note that it is presently possible for other people to determine that you are signed up to the list through the use of the "REVIEW" command, which returns the e-mail address and name of all the subscribers. If you do not want your name to be visible, just issue a "SET PRFCMP-L CONCEAL" command.

More information on LISTSERV commands can be found in the LISTSERV reference card, which you can retrieve by sending an "INFO REFCARD" command to LISTSERV@UTKVM1.UTK.EDU.

From: Mechler, Edmund
Sent: Thursday, December 19, 1996 8:20 AM
To: 'Don Gotterbarn'
Subject: Code of Ethics References

Don
Please change my e-mail address to

emechler@eri.eqt.com

The references for the Code we developed are as follows:

1. IEEE and IEEE CS Code of Ethics
2. National Society of Professional Engineers Code of Ethics
3. Project Management Institute Code of Ethics for the Project Management Profession
4. ACM Code of Ethics and Professional Conduct
5. American Institute of Certified Public Accountants Professional Standards Manual
6. PA State Registration Board of Professional Engineers, Land Surveyors and Geologists The Code of Ethics and the Law
7. The Unwritten Laws of Engineering by W. J. King American Society of Mechanical Engineers.

The initial outline was developed from 2. above and then added to by the subgroup or other Codes.

Ed

From: Mechler, Edmund
Sent: Tuesday, December 10, 1996 10:21 AM
To: 'L-F Cabrera'
Subject: Web Site

Felipe,
In that mis-comm to me about the minutes of the November meeting you mentioned a web site on the IEEE CS page. Is it the one under Technical activities
Software Engineering
Task Force on SE Profession
or is it another one? This one has Howell from MITRE as chair and that is about all.

Any developments on Ethics? Spectrum 12/96 has an article and a web page
<http://web.mit.edu/ethics/www/>

Still available if you need help.

Ed

From: Felipe Cabrera[SMTP:cabrera@MICROSOFT.com]
Sent: Monday, November 25, 1996 4:29 PM
To: Mechler, Edmund
Cc: 'r.melford@computer.org'
Subject: RE: work items from our meeting last week in Pittsburgh

I am SORRY, this was supposed to go to Robert Melford.

Now, you ALSO know all the action items that came out of the meeting.

-- Felipe

>-----

>From: EMEchler@eri.eqt.com[SMTP:EMechler@eri.eqt.com]
>Sent: Monday, November 25, 1996 1:20 PM
>To: Felipe Cabrera
>Subject: RE: work items from our meeting last week in Pittsburgh

>

>Felipe

>I am confused. I didn't meet with you in Pgh last week. I wish
>I would have known you were in Pgh, I would have liked to meet.
>I did meet with Don last week. As to the action items there isn't
>any with my name on it; they look very interesting; need any help.
>Ed

>> -----

>>From: Felipe Cabrera[SMTP:cabrera@MICROSOFT.com]
>>Sent: Monday, November 25, 1996 3:52 PM
>>To: Mechler, Edmund
>>Subject: work items from our meeting last week in Pittsburgh

>>

>>Ed,

>> Many thanks for your participation in our meeting last Thursday. I
>>appreciate your involvement and your work.

>> I did regret to be unable to talk longer with you about the
>>stressing life situations that you have been going through. I look
>>forward to spending some time at the next meeting in February.

>> FYI I enclose the complete list of actions items that you helped
>>us draft. There are several that belong to you and will appreciate it
>>very much if you let me know if clouds appear in the horizon and the
>>work cannot be done.

>>

>> -- Felipe
>>
>>>
>>>Action item due 11/24/96: Felipe Cabrera
>>>Send Stuart Feldman a copy of the code of Ethics of Professional Engineers
>>>and Civil Enginners.
>>>Resolution: 11/23/96. Done.
>>>
>>>
>>>Action item due 11/24/96: Mario Barbacci
>>>Change the description that appears in the current survey to state that
>>>multiple sessions are possible.
>>>
>>>Action item due 11/24/96: Robert Melford
>>>Provide Felipe Cabrera with an initial statement of the question whether
>>>software engineers should be licensed engineers, to be used as basis to
>>>present the forthcoming discussion on this subject.
>>>
>>>Action item due 11/25/96: Felipe Cabrera
>>>Inquire whether IEEE-CS can set additional Web pages with information about
>>>the activities of our committee. This Web site should also offer the
>>>possibility of registration by e-mail to receive periodic distribution of
>>>information.
>>>Resolution: 11/21/96. Site can be established immediately with all the
>>>function needed.
>>>
>>>Action item due 11/30/96: Dennis Frailey
>>>Produce a list of topics that describes the area of real-time systems.
>>>Send it via e-mail to the whole steering committee.
>>>
>>>Action item due 12/06/96: complete steering committee
>>>Select a set of questions that is a "good example" of the level of detail
>>>that we desire for the whole survey. Send e-mail to the whole steering
>>>committee with the choice.
>>>
>>>Action item due 12/13/96: Mary Shaw & Dennis Frailey
>>>Produce a set of paragraphs that describe the field of real-time software
>>>engineering.
>>>Send it via e-mail to the whole steering committee.
>>>
>>>Action item due 12/13/96: complete steering committee
>>>Review and propose improvements to the existing outline and structure of
>>>the
>>>survey.
>>>Send it via e-mail to the whole steering committee.
>>>Felipe Cabrera will act as editor of the suggestions.

>>>
>>>Action item due 1/15/97: Leonard Tripp
>>>Request sets of questions for the survey in the topics identified by Dennis
>>>Frailey.
>>>Send it via e-mail to the whole steering committee.
>>>
>>>Action item due 1/15/97: Elliot Chikofsky
>>>Identify and secure relevant position statements that address the issue of
>>>licensing of software engineers. Send the material to Felipe and e-mail to
>>>the
>>>whole steering committee regarding the findings.
>>>
>>>Action item due 1/20/97: Robert Melford
>>>Rewrite the proposal for a Code Of Ethics and Professional Practices for
>>>Software Engineers following the canonical form of those for Professional
>>>and
>>>Civil Engineers. Produce a document that complements and expands those
>>>previously mentioned. This will align this proposed code with that of
>>>sister
>>>disciplines. Be different only when there is need to be different.
>>>
>>>Action item due 1/20/97: Mary Shaw
>>>Request Fred Brooks to be the moderator of the Web-based discussion on
>>>whether software engineers should be licensed.
>>>
>>>Action item due 2/10/97: Robert Melford
>>>Report on the Computer Engineer exam. Include in the report their top-level
>>>definition of the field.
>>>
>>
>

From: Manny Norman, Sr. Sys. Prgmr.,
LT[SMTP:NORMAN_MANNY@emuvax.emich.edu]
Sent: Tuesday, November 19, 1996 11:51 AM
To: Mechler, Edmund
Subject: RE: FW: Ethics Workshop

From my experiences organizing just one-day Professional Development Seminars for the Ann Arbor chapter of ACM, and the time it takes, and also playing a small part in organizing an ACM SIGUGS conference in this area, I would say 1998 is not so far away!

Manny.

From: Mechler, Edmund
Sent: Tuesday, November 19, 1996 10:06 AM
To: Don Gotterbarn; Laurie Werth; Mark Kanko AFIT/ENG; Norman Manny
Subject: FW: Ethics Workshop

I had trouble through the Multiple Recipients site; host not found. I decided to form my own list with members I know of. Please one of you send this on to the rest and tell me the correct address of the list.
Ed

From: Mechler, Edmund
Sent: Tuesday, November 19, 1996 9:40 AM
To: 'SEEP Volunteers'
Subject: Ethics Workshop

Like Manny I like the idea of a Ethics Workshop.
But first, why so late, why not in 1997?
Second, Laurie go a little deeper in defining a Workshop; a number of ideas come to mind with Conferences Workshops.
Third, what part do you suggest the Ethics Document presently being reviewed play?
Ed

From: Mark Kanko AFIT/ENG[SMTP:mkanko@afit.af.mil]
Sent: Tuesday, November 19, 1996 9:18 AM
To: Mechler, Edmund
Subject: RE: Code of ethics

On Tue, 19 Nov 1996 08:36:22 -0500 EMechler@eri.eqt.com wrote:

> When will you send your comments?

As much as I'd like to send my own comments, I'm completely consumed by end-of-quarter responsibilities. Therefore, I don't see sending comments anytime in the near future. I haven't even had time to take the preliminary survey of competencies yet.

> As I started to read I wondered if you would like responses to
> the comments to feed back to the students

That might be helpful. If you had general comments that cover most of the areas they addressed--your call. However, I will not ask them for additional written comments as they have other labs and homeworks they are working on.

Mark

=====

Maj Mark A. Kanko | Air Force Institute of Technology (AFIT)
Assistant Professor | Graduate School of Engineering
mkanko@afit.af.mil | Dept of Elect. and Computer Engineering
(937) 255-3636, x4612 | Wright-Patterson AFB, OH

From: Mechler, Edmund
Sent: Tuesday, November 19, 1996 8:36 AM
To: 'Mark Kanko AFIT/ENG'
Subject: RE: Code of ethics

Mark

So far format looks good. You must have had a busy weekend. when will you send your comments? As I started to read I wondered if you would like responses to the comments to feed back to the students and get possibly more comments?
Ed

From: Mark Kanko AFIT/ENG[SMTP:mkanko@afit.af.mil]
Sent: Monday, November 18, 1996 10:37 AM
To: Mechler, Edmund; Don Gotterbarn
Subject: Code of ethics

<<File: COMBINE.txt>>

Ed, Don:

Here are the comments from my graduate students. These students are all USAF officers. Most have at least 4 years experience in the communications/computer area. Some have more and a few are brand new officers. My comments are not attached.

I apologize for the format--I got it in all forms from the

students (I forgot to standardize) so I just pasted into an
ascii document and have attached it. Let me know if you can't
decode it.

Hope this helps.

Mark

=====
==

Maj Mark A. Kanko | Air Force Institute of Technology (AFIT)
Assistant Professor | Graduate School of Engineering
mkanko@afit.af.mil | Dept of Elect. and Computer Engineering
(937) 255-3636, x4612 | Wright-Patterson AFB, OH

From: Mark Kanko AFIT/ENG[SMTP:mkanko@afit.af.mil]
Sent: Monday, November 18, 1996 10:37 AM
To: Mechler, Edmund; Don Gotterbarn
Subject: Code of ethics

<<File: COMBINE.txt>>

Ed, Don:

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are all USAF officers. Most have at least 4 years experience in
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I apologize for the format--I got it in all forms from the
students (I forgot to standardize) so I just pasted into an
ascii document and have attached it. Let me know if you can't
decode it.

Hope this helps.

Mark

=====
==

Maj Mark A. Kanko | Air Force Institute of Technology (AFIT)

Assistant Professor | Graduate School of Engineering
mkanko@afit.af.mil | Dept of Elect. and Computer Engineering
(937) 255-3636, x4612 | Wright-Patterson AFB, OH

From: Mechler, Edmund
Sent: Monday, November 18, 1996 8:14 AM
To: 'Don Gotterbarn'
Subject: RE: parking at CMU (fwd)

Don
I will meet you at the TV Studio unless you hear otherwise.
Ed

From: Don Gotterbarn[SMTP:gotterba@seasva.gwu.edu]
Sent: Sunday, November 17, 1996 10:44 PM
To: Mechler, Edmund
Subject: parking at CMU (fwd)

Ed,
I will be talking about professionalism to a software project management class at the SEI on Thursday morning from 10:30-11:50. I have arranged for you to visit the class, if you wish. Whether you come to the class or not, we could meet for lunch. I will have an hour before I have to do another recoding. I have arranged for a parking space at the SEI. The contact if there is a problem is Ellen Saxon. See the attached. The class meets in the TV studio in the basement. If the guards are not clear on what is going on ask them to call Kurt or Elizabeth in the TV studio.

Look forward to meeting you.

best regards,
don

----- Forwarded message -----
Date: Fri, 15 Nov 96 12:17:55 EST
From: Ellen_N_Saxon@J.GP.CS.CMU.EDU
To: gotterba@SEASVA.GWU.EDU
Subject: parking at CMU

Don,

Can you please pass this on the Mr Melchler:

I have a parking pass for Edward Mechler waiting for him at the SEI message center on the 2nd Floor.

He will need to enter the SEI garage in the visitor's door and take a parking ticket from the machine.

Pick up the pass from the message center and hand both the ticket and pass to the parking attendant when he leaves.

Any questions, please call me at 268-6441

Thanks
Ellen

From: Mark Kanko AFIT/ENG[SMTP:mkanko@afit.af.mil]
Sent: Tuesday, November 12, 1996 9:37 AM
To: Mechler, Edmund
Subject: Re: Test

On Tue, 12 Nov 1996 08:14:27 -0500 EMechler@eri.eqt.com wrote:

> Now let us see if my return works.

Ed:

It does. I'll try to get those comments to you today.

Mark

=====
==
Maj Mark A. Kanko | Air Force Institute of Technology (AFIT)
Assistant Professor | Graduate School of Engineering
mkanko@afit.af.mil | Dept of Elect. and Computer Engineering
(937) 255-3636, x4612 | Wright-Patterson AFB, OH

From: Mechler, Edmund
Sent: Tuesday, November 12, 1996 8:14 AM
To: 'Mark Kanko AFIT/ENG'
Subject: Test

Mark
I got your test message and saved your address
Now let us see if my return works.
Ed

From: Mark Kanko AFIT/ENG[SMTP:mkanko@afit.af.mil]
Sent: Tuesday, November 12, 1996 7:34 AM
To: Mechler, Edmund
Subject: Test Message

Ed:

Coming through?

Mark

=====
==

Maj Mark A. Kanko | Air Force Institute of Technology (AFIT)
Assistant Professor | Graduate School of Engineering
mkanko@afit.af.mil | Dept of Elect. and Computer Engineering
(937) 255-3636, x4612 | Wright-Patterson AFB, OH

From: Mechler, Edmund
Sent: Friday, November 08, 1996 8:20 AM
To: 'Mark Kanko'
Subject: Ethics Comments

Mark,
Yes I would like to see your students comments.

My new e-mail address is emechler@eri.eqt.com.
By the way, do you still have a copy of the e-mail
that Don sent around? I never received it and would
like to see if any others have comments.
Ed

From: Mechler, Edmund
Sent: Wednesday, October 23, 1996 3:25 PM
To: 'Mike Davis'
Subject: Editorial Comment

Mike

In regard to the three of you meeting and deciding on the
replacement of "one", OK. There was the one review comment
I said I would change also. But, as of this date we have submitted,
had two reviews, and we are waiting. I have volunteered the group
to revise, etc. but have heard nothing since the reviews. In one
e-mail it was said that it would be reviewed at the November
meeting, what ever that is, but Don said it was canceled. I will
have a meeting with Don next month, he will be in Pittsburgh,
and maybe find out what is next.

I expected more e-mails also, but nothing. I think there may be a
struggle on the format. Were you able to get and read ACMs? I
think that is a format that is somewhat different than the nominal
one. I think Don likes that one since he worked on it.

In regard to your two questions I do not know if any discussions
went on besides e-mail. Our group participated fairly, except half
which did a lot. As to between SEEPP Groups or the Task Force,
I don't know. If all the groups are like ours, very little, because of
geographical considerations.

If I counted correctly, in SEEPP there was eight working groups.
I have heard of one other working, I sent a copy of the e-mail
to Ilene that Don sent me; if you want it let me know. It would
be nice to know. I have asked a number of people about the entire
program, but no answer. Maybe I will e-mail a number of them.

Stay in touch.

Ed

From: Mechler, Edmund

Sent: Monday, October 14, 1996 2:38 PM
To: 'Mike Davis'
Subject: Fax Oct 14,1996

Mike

I thought you would get a kick out the two e-mails. I do not think any one knows that you, etc are helping. It may be unethical, but enjoyable, to answer the comments when I have two or three ethics experts helping. I now think that some in fighting occurred but do not know what.

Cabrera didn't write the reviews but two people, Dennis and Mary. He with held the names but Dennis was in the second review and Gotterbarn told me the names in his e-mails. Don wanted to help me answer but one was sent and the other was being sent when I received his e-mails. There was two e-mails; did you get both? The 4.01 "I agree with Dennis" was the second one. If you look at the first one at 4.01 review about competence you will see the question "who determines competence?".

I think I finally found out what Don may have wanted. If you can go on the net go to ACM home page(<http://www.acm.org>) and click on a blue box call "Serving the Community" and then "Code of Ethics": of course you can get there direct by <http://www.acm.org/constitution/bylaw17.txt>. I would like you to read it and comment; I have some problems with the approach. If you can't get it, I will fax it to you.

By the way, why do you fax me instead of e-mail?

I have not transferred the e-mails to disc yet. Of course I started a new directory.

Ed

From: gcarter@computer.org[SMTP:gcarter@computer.org]
Sent: Monday, October 14, 1996 1:03 PM
To: Mechler, Edmund
Cc: bstraub@computer.org
Subject: Code of Ethics

Thank you for your inquiry. The Computer Society follows the IEEE Code of Ethics. You may access the document through the IEEE homepage at www.ieee.org or use the direct address of www4.ncsu.edu/unity/users/j/jkerkert/ethics.html. If you want additional information on the issue of ethics, you may also search our Web site at www.computer.org using the search terms 'code of ethics.' I tried this and came up with several articles, etc. that discuss ethics.

Please feel free to contact me directly if you need additional information.

Kind regards,
Georgann Carter
Membership and Circulation Marketing Manager
IEEE Computer Society
email: gcarter@computer.org

_____ Forward Header

Subject: Code of Ethics
Author: EMechler@eri.eqt.com at INTERNET
Date: 10/11/96 8:26 AM

Does the Society have a Code of Ethics for its members?
If so can I get it off of the web page or can it be e-mailed?
Ed

From: Mechler, Edmund
Sent: Friday, October 11, 1996 3:22 PM
To: 'Don Gotterbarn'
Subject: SE Code

Second set of comments for review.
Ed
<<File: COMENT2.TXT>>

From: Mechler, Edmund
Sent: Friday, October 11, 1996 3:19 PM
To: 'Don Gotterbarn'
Subject: SE Code

First answer to reviews
Ed<<File: COMENT1.TXT>>

From: Mechler, Edmund
Sent: Friday, October 11, 1996 7:10 AM
To: 'ACM Member Help'
Subject: RE: ACM WWW Feedback

Lu Frye
Thanks but I got it off of your web page yesterday.
Ed

From: ACM Member Help[SMTP:acmhelp@hq.acm.org]

Sent: Thursday, October 10, 1996 7:03PM
To: Mechler, Edmund
Subject: RE: ACM WWW Feedback

Dear Ed:

Please provide your mailing address, and a copy of ACM Code of Ethics will be mailed to you.

Sinceely,

Lu Frye
Member Services

From: SYSTEM
To: acmhelp; clore
Cc: webmaster
Subject: ACM WWW Feedback
Date: Thursday, October 10, 1996 10:22AM

Feedback

URL: <http://www.acm.org/>
Type: Question
From: emechler@eri.eqt.com
Host: turing.acm.org (199.222.69.20)

Does ACM have a Code of Ethics for the society/software people?
If yes how to I get to read it?
Ed

From: Michael A. Clore[SMTP:clore@acm.org]
Sent: Thursday, October 10, 1996 9:31 AM
To: Mechler, Edmund
Cc: acmhelp@acm.org
Subject: Re: ACM WWW Feedback

> Does ACM have a Code of Ethics for the society/software people?
> If yes how to I get to read it?7

It's available on-line from the "Serving the Community"
page at <http://www.acm.org/serving/>.

--

Michael Allen Clore

"It is unworthy of excellent (people) to lose ACM Network Information Mngr
| hours like slaves in the labor of calculation

Fax/Data: 520-290-4181 | -Baron Gottfried Wilhelm Von Leibniz(1646-1716)

Voice: 520-290-4147; Net: clore@acm.org, <http://www.acm.org/~clore/>

From: Mechler, Edmund

Sent: Thursday, October 10, 1996 10:59 AM

To: 'Cathy Downer'

Subject: RE: Code of Ethics

Cathy

Thanks for the info and your next e-mail with the code.

Ed

From: Cathy Downer[SMTP:cdowner@pop.ieee.org]

Sent: Thursday, October 10, 1996 9:30AM

To: Mechler, Edmund

Subject: Re: Code of Ethics

Hi Ed

You can reach the Code of Ethics on the IEEE Home Page at URL:
<http://www.ieee.org> . I believe I also have it electronically and I'll
forward that to you also! cathy

At 08:20 AM 10/10/96 -0500, you wrote:

>Cathy Downer,

>Ray Larsen in his article in The Institute referred to (Article 1, Sec.

>2).

>I assume this the Code of Ethics. Is there a way to read the Code on

>line

>or send to me by e-mail?

>Ed

>

>

>

From: Cathy Downer[SMTP:cdowner@pop.ieee.org]
Sent: Thursday, October 10, 1996 8:36 AM
To: Mechler, Edmund
Subject: IEEE Code of Ethics

IEEE Code of Ethics

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

1 to accept responsibility in making engineering decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;

2 to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;

3 to be honest and realistic in stating claims or estimates based on available data;

4 to reject bribery in all its forms;

5 to improve the understanding of technology, its appropriate application, and potential consequences;

6 to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;

7 to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;

8 to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;

9 to avoid injuring others, their property, reputation, or employment by false or malicious action;

10 to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

Approved by the IEEE Board of Directors

August 1990

From: Mechler, Edmund
Sent: Wednesday, October 09, 1996 9:56 AM
To: 'Don Gotterbarn'
Subject: Ethics Product

Don
My e-mail address has changed to
emechler@eri.eqt.com
for faster service. You can still use the
old one because it is still active for this
project.
My phone number is
412 553-6144
Ed

From: Mechler, Edmund
Sent: Wednesday, October 09, 1996 9:36 AM
To: 'Felipe Cabrera'
Subject: RE: SE Ethics

Felipe
Sorry I spelled your name wrong on the first review. I think the first commentator got to me a little; heard those responses too many times in my life. It seems the ethics product has developed some heat in the total effort; I got four e-mails from Don Gotterbarn but I will get to them after sending you this reply.
Ed

From: Felipe Cabrera[SMTP:cabrera@MICROSOFT.com]
Sent: Monday, October 07, 1996 2:35PM
To: Mechler, Edmund

Subject: SE Ethics

Ed,

Please do not feel overwhelmed or disappointed but pleased that smart people are reading your document in a careful manner.

Do you think you may address the points discussed below?

-- Felipe

>-----

>Subject: Re: FW: SE Ethics

>

>Felipe,

>

>I share xx's general concern that this is fine in theory but hard to
>apply. I realize that codes of ethics should be idealistic, but they
>also must be credible -- that is, practitioners should be able to
>see how the code shapes their work. Another way of saying this is
>that this draft seems a little naive.

If I remember correctly, there was a debate in Ethics between Absolute and Relative but not idealistic and practical. The code doesn't shape work but guides SEs in areas of concern. I don't understand the "naive", aren't we advocating all of the items in the code?

>

>The Code doesn't discriminate in intensity, even though some of the
>points are pretty close to absolute and others are currently viewed
>by many as good practice. I'd sign up to expecting an SE to refuse to
>work on a project that is blatantly unsafe or fraudulent. However,
>deviations from this committee's view of good process doesn't fall in
>this category, and the Code doesn't distinguish. For example, for me
>"thou-shalt-absolutely"s include 2.01, 2.03 (but see note), 2.07, 4.04,
>4.08, 4.09 whereas "you should make a good-faith attempt to" include
>1.01, 1.05, 4.06, 5.06, 5.11.

I have never seen intensity associated with Ethics; guidelines are statements to help judgment. If a project is "blatantly" something then I don't need a code; the code is for the gray areas.

>

>There are some other points that require each software engineer to
>control things over which he/she has no control. Naturally the SE
>should try to achieve all this, by working within the company if not
>directly. But holding individual SEs responsible for things outside
>their control is another place where the degree of responsibility
>and consequence isn't clear: 1.01, 1.06, 1.07, 1.09, 1.12, 3.04, 4.02,
>6.06, 6.10

The question is, Where does the responsibility begin? It must start at the SE Professional. I think too much "Thou shall not" or Thou shall" is being read into the Codes Items. They are guide lines.

>

>There are some points at which mechanism creeps in. The Code should,
>I think, state the objective and leave implementation to the best
>judgement of the engineer. (This is the usual rule about specifications.)
>Examples: 1.01 (the new one about written specs, added between Aug 8
>and Sep 30), 2.02 (the "well-documented" part), 2.03 (the "affix
>signature" part), 5.13, 6.02 (the only way I can understand this one
>is as an implementation of something I haven't figured out yet).

I do not see the "mechanism". We did not lay out steps but areas that the SE should be aware of. We tried to put them in a SE logical order which might give it an allusion of steps. The items are not objectives but guidelines for judgments.

>

>A particular problem area is international business. Even if the
>Code is intended for US practice, many US firms operate internationally.
>3.02 and 3.03 (on bribes, kickbacks, etc) don't really address the
>very gray situation in some countries. For example, I understand that
>in some countries customs officials are not supposed to take payments
>(by whatever name), but the computation that yields their salaries
>assumes they *are* receiving such payments.

This is an area that goes back to Ethics being absolute or relative. I personally have not heard of a system using bribes, kickbacks, etc. that has worked. I have heard of systems that removed them and had better results. Anyway, this area was adapted from the PE Code, most of those people do business internationally.

>

>There are also omissions in the handling of intellectual property.
>Piracy appears in 4.04, confidentiality and public domain IP are used
>inconsistently in 4.05, copyright but not patent appears as part of a
>list in 4.07, trade secret and nondisclosure are mentioned nowhere at
>all (though 4.05 was probably intended to address them), there's also
>nothing about export restriction, and what's there about privacy is
>politically loaded.

"Patent" will be added to 4.07. If "export restriction" is desirable please write the statement and where it should be placed; I am not sure it fits here. As for privacy being politically loaded, maybe, but from an ethical point of view we should be very aware of these conditions.

>

>On the whole, I think the document would be more likely to be read if
>it were shorter, crisper, and more realistic. A supplementary document
>could work through examples in a little more detail than the 2-liners
>that constitute most of this document.

This a matter of style. We decided on the PE Code model to list some of the detail items associated with a rule.

>

>Specific comments:

>

>Introduction:

- > - "to assure ... used for good" makes me uneasy (who gets to decide what's "good"?)

Ethics is a set of principles or values that guide our judgments.

- > - The last sentence about the second-order bullets being incomplete sets of examples is pretty obscure.

General disclaimer saying we cannot give all instances of a rule in ethics.

>

>Rule 1

- > - 1.04: Who on earth gets to decide whether goals are "proper"?

Ethics is a set of principles or values that guide our judgments.

- > - 1.10: software/documentation seems mismatched to privacy. Privacy probably belongs under Rule 2 anyhow. Further, there's a big difference in the privacy arena between what's legal in the US and what many people think is "proper".

There is a difference, something legal could be unethical. The items are guidelines for judgments.

- > - 1.13: What if the client wants quality of product (==> not minimum price) and quality of life for SEs and programmers (==> not maximum productivity)?

The client should then have a code or mission; I am not sure these fall under the SEs control. Anyway these do not seem to me to be mutually exclusive.

- > - 1.14: It is not the case that "fad" is the same thing as "departure from standard practice". In fact, there's a good case that some standard practices ARE fads.

That is so true. A great deal of resources are applied because it is the latest fad , not because it fits the project and if we are luckily we end up where we started. As professionals this is an area we should be trying to decrease the occurrence of.

>

>Rule 2

- > - 2.03 Presumably this means engineering documents about the product, not other documents the SE may sign at various times?

Yes it refers to Rule 2

- > - 2.07 Wouldn't it be nice to have a level of practice that allowed this?

As professionals we should try hard to get there; we have too much finger pointing.

>

>Rule 3

- > - 3.02, 3.03 See note above about the realities of international business. See reply to international note.

- > - 3.05, 3.06 Are these acts always and without exception unethical? I've been a member of a number of groups in which potential conflicts were managed other than by complete exclusion. Indeed, 3.07 offers an alternative, thereby creating disagreement among 3.05, 3.06, and 3.07.

I am not sure I understand your experiences but 3.05 and 3.06 give a guideline for these conditions and 3.07 gives an alternative if 3.05/3.06 can not be applied.

>

>Rule 4

> - 4.01 I agree with Dennis.

I think competency is quite recognizable and since you agree with the first reviewer;
The commentator paints a very bleak picture of our industry.

> - 4.05 Good sentiment, but imprecise statement. There are many

> degrees of confidentiality to observe. In particular, copyright

> material is widely available in books but not public domain.

> Do you really mean an SE should say "I found the algorithm in

> a standard textbook but must keep it confidential?" That's what

> this point says.

First, I haven't seen a standard textbook in a while. Shouldn't it be the responsibility of
the SE to bring your example to light? If I use an algorithm for gains what is the ethical
thing to do?

> - 4.07 Why just *copyright* laws? Why not *all* laws?

We have 5.10. I have seen "Obey all Laws" in ethics documents but find it hard to put
general legal factors in ethics for two reasons. To a degree ethics transcends legal and if a
concept is legal doesn't necessarily imply ethical.

>

>Rule 5

> - 5.08 How does this differ from 2.05?

5.08 refers to working with other SEs whereas 2.05 is more toward the public in general.

>

>Rule 6

> - 6.02 Is it the intention of the Code to eliminate anonymous

> refereeing? That wouldn't be consistent with 5.13. More

> seriously, engineers review engineering artifacts regularly.

> As far as I know, reviewers of public artifacts don't check

> in first. This would preclude product reviews undertaken without

> prior warning to the developer; it would impede product selection

> in the same way. What is this really trying to say?

6.02 is not even related to 5.13. Shouldn't a professional be advised that their work is
being reviewed? The item doesn't refer to public artifacts. I must be missing the point of
anonymous refereeing or without prior warning since I never deal with them. Is it to trap
someone? What happened to walkthroughs?

>

>

>

>

>

From: Felipe Cabrera[SMTP:cabrera@MICROSOFT.com]

Sent: Tuesday, October 08, 1996 1:00 PM

To: Mechler, Edmund

Subject: RE: Ethics Final Draft

Task Force Review Group chaired by me is fine.

-- Felipe

>-----

>From: EMEchler@eri.eqt.com[SMTP:EMechler@eri.eqt.com]

>Sent: Tuesday, October 08, 1996 11:33 AM

>To: Felipe Cabrera

>Subject: RE: Ethics Final Draft

>

>Felipe

>I feel in tune with the group after all the reviews and comments

>building the product. I will send both around asking if there are

>additional comments or areas requiring change. Will you give me a name

>for the reviewers to tell the group? Task Force Review Group, etc.

>Second review to follow tomorrow I hope.

>Ed

>

>>-----

>>From: Felipe Cabrera[SMTP:cabrera@MICROSOFT.com]

>>Sent: Tuesday, October 08, 1996 11:53AM

>>To: Mechler, Edmund

>>Subject: RE: Ethics Final Draft

>>

>>Ed,

>> I am satisfied with your changes given that you are in tune with

>>the whole group.

>> I did send you a second e-mail (I believe yesterday) with more

>>comments.

>> I suggest that after you incorporate those comments, if you think

>>it would be good, you should circulate the document by the group. These

>>issues are tough as so many people are affected by them.

>>

>> -- Felipe

>>

>>>

>>

>

From: Mechler, Edmund

Sent: Tuesday, October 08, 1996 8:40 AM

To: 'Felipe Cabrera'

Subject: RE: Ethics Final Draft

Feline

I tried to answer the concerns the best I could, hope it is OK. I think the change to a professional status will bring up this type of frustration from many people and maybe this individual is fighting it a little. I did not send my comments to the group; do you want me to? If there are additional comments like these maybe a meeting is in order to discuss the results.

Ed

From: Felipe Cabrera[SMTP:cabrera@MICROSOFT.com]
Sent: Sunday, October 06, 1996 5:31PM
To: Mechler, Edmund
Subject: Ethics Final Draft

Ed,

Could you address the comments made below?

Some are tough and general, and perhaps they cannot be addressed.

Yet the more pointed ones would be nice to clarify and fix.

Please let me know.

-- Felipe

>-----

>

>Here are my comments on the proposed code of ethics.

>

>In general, I think this expresses some good ideals, but is entirely
>impractical in a number of cases. The problem is that many of the things
>being proposed are vaguely defined, impossible to accomplish, or
>not under the control of the software engineer. A few others might
>not be generally accepted as the "right" thing to do.

>

First The SE Code of Ethics was built using other professional codes as models. Ethics doesn't have a practical/impractical side that I have ever experienced. Usually, ethics are vaguely defined and are not under any one groups control. I don't think that any of the items are impossible to do as a professional. Finally, I'll give 100 to 1 odds that under any professional code there are items that some will think are not the "right" thing to do.

>Specific comments and suggestions are identified below.

>

>> >CODE OF ETHICS FOR SOFTWARE ENGINEERS

>> >

>> >INTRODUCTION

>> >

>> >Computers now have a central and growing role in commerce,
>> >industry, government, medicine, entertainment, and ordinary life.

>> > Because the utility of computers depends in large part on the
>> >instructions written for them, those who design, develop, and

>> >test software have enormous opportunities both to do good and to
>> >cause harm. To assure, as much as possible, that this power will
>> >be used for good, software engineers commit themselves to making
>> >the design, development, and testing of software a distinct,
>> >beneficial, and respected profession. In accordance with that
>> >commitment, software engineers shall adhere to the following
>> >standards of conduct. The seven main paragraphs state general
>> >rules.

>

>The following sentence makes no sense to me:

>

>> >Each subsidiary clause is a specific application of its
>> >general rule, one experience has shown needs express statement;
>> >but no set of subsidiary clauses exhausts the general rule.

General disclaimer saying we cannot give all instances of a rule in ethics.

>

>

>> >

>> >Rule 1: PRODUCT. Software engineers shall, insofar as possible,
>> >assure that the software on which they work is useful to public,
>> >employer, customer, and user, completed on time and at reasonable
>> >cost, and free of significant error. In particular, software
>> >engineers shall, as appropriate:

>> >

>> > 1.01. Assure that specifications for software on
>> > which they work have been put in writing,
>> > satisfy the user's requirements, and have the
>> > customer's approval.

>

>I see no reason why the ETHICS would require that specifications be
>put in writing. And I do not believe a software engineer is in a position
>to assure that specifications have met the other criteria. Examples:
>- you are brought in to fix something where you have(no) know knowledge
> of the history of its requirements
>- you are given the requirements by your organization and have no
> interface with the customer and do not know if the customer has
> approved

Specs in writing could be put "record specs" but at present writing is the safest way of
assuring transfer of data. The example given is one of the problems we are trying to
decrease the occurrence of.

>

>> > 1.02. Assure that they understand fully the
>> > specifications for software on which they work.

>Would that this were true. It never is in practice. Things are gray here.

Again, as professionals, another area we are trying to decrease the occurrence of. Shouldn't we strive for better specs and be unethical if we didn't.

>

>>> 1.04. Assure proper goals and objectives for any

>>> project on which they work.

>How can this be done? What is "proper"? By whose standards?

There seems to be a contradiction here - if standards, companys/industry, exist then "proper" is defined. These are not difficult to do, although we don't, if we follow project manage techniques.

>

>>> 1.05. Assure proper development methodology on any

>>> project on which they work.

>Same question as above.

See 1.04

>

>>> 1.06. Assure proper management on any project on

>>> which they work, including proper procedures

>>> for control of quality and risk.

>This is patently impossible. A software engineer is not in a position to

>assure anything about management unless they are the management.

As any type of engineer I can assure proper mgmt of my responsible areas and shouldn't I report mismgmt.

>

>>> 1.07. Assure proper estimates of cost, schedule,

>>> personnel, and outcome on any project on

>>> which they work.

>Once again, what is "proper" and notwithstanding that, how can a software

>developer assure this in practice? Chances are they were added to the

>project long after estimates were done.

Another area we are trying to decrease the occurrence of.

>

>>> 1.08. Assure adequate documentation on any project

>>> on which they work, including a log of

>>> problems discovered and solutions adopted.

>This is determined by company processes and procedures and policies and

>specific customer requirmenets, not by software engineers desires.

What is the problem? Why shouldn't a professional add to these in areas of their expertise?

>

>>> 1.09. Assure proper testing, debugging, and review

>>> of software and related documents on which

>>> they work.

>What is "proper"?

See 1.04

>

>>> 1.10. Assure that software and related documents

>>> on which they work respect the privacy of
>>> those who will be subject to the software.
>This is vague and untestable. Who will be "subject to the software"?
>What does it mean to "respect the privacy"?
This is an ethics statement not a program being written. I don't think it is vague but an assurance that the SE thinks about the privacy issue.
>
>>> 1.11 Assure that raw information used in software
>>> is accurate, derives from a legitimate source,

>>> and is used only in ways properly authorized.
>Assurance may be difficult.
It may be difficult but we owe it to the public and who we are doing the job for.
>
>>> 1.12. Assure ethical, economic, cultural, legal,
>>> and environmental issues are properly
>>> identified, defined, and addressed.
>Few software engineers even know what these issues are.
Then maybe they are not SEs and this is a goal we should be aiming for.
>
>>> 1.13. Promote maximum productivity and minimum
>>> cost to employer, customer, user, and public.
>A nice ideal.
Is the commentator saying we are not doing this now? Are we a group of cheats?
>
>>> 1.14. Avoid fads, departing from standard
>>> practices only when justified.
>This is a judgement call. Highly inappropriate in a code of ethics.
Ethics is a set of principles or values that guide our judgments.
>
>>>
>>>Rule 2: PUBLIC. Software engineers shall, in their professional
>>>role, act only in ways consistent with the public safety, health
>>>and welfare. In particular, software engineers shall:
>>>
>>> 2.01. Disclose to appropriate persons any danger
>>> that the software or related documents on
>>> which they work may pose to the user, a third
>>> party, or the environment.
>>> 2.02. Approve software only if they have a well-documented
>>> belief that it is safe, meets specifications, and
>>> has passed all appropriate tests.
>This is too arbitrary. Why must their belief be well documented? Doesn't
>this depend on the intended use of the software? Doesn't "safety" also
>depend on the intended use?

Again 1.14 response; taken from PE Code.

>

>>> 2.03. Affix their signature only to documents

>>> prepared under their supervision and within

>>> their areas of competence.

>This would eliminate most documents one signs while seeking

>employment, such as non-disclosure agreements and

>various employment condition documents, such as intellectual property

>rights agreements.

I do not see what these examples have to do with Rule 2.

>

>>>

>>> 4.01. Provide service only in areas of competence.

>This would eliminate most practicing software engineers. I mean this.

>Who determines competence?

The commentator paints a very bleak picture of our industry.

>

>>> 4.02. Assure that any document upon which they

>>> rely has been approved by someone qualified

>>> to approve it.

>And how are they to determine the qualifications of the person who

>approved a document that was prepared by another organization or

>a long time ago?

See 1.14 response

>

>--- (snip) ---

>

>>> their opinion, a project is likely to fail,

>>> to prove too expensive, to violate copyright

>>> laws, or otherwise to turn out badly.

>I assume client means employer in most cases.

Yes

>

>--- snip --

>

>>> 7.01. Improve their knowledge of recent

>>> developments in the design, development, and

>>> testing of software and related documents.

>I don't see why this is required for them to be ethical.

>Ditto for the rest of this section. Sounds more like what one would

>expect for them to get a license, not to be considered ethical.

In the fastest growing field today, and perhaps in history, this is definitely an ethical issue. I have met too many people giving advice and guidance who I hope were not up to date and not just lying

>

>End of Comments

>

From: Mechler, Edmund
Sent: Friday, October 04, 1996 2:02 PM
To: 'Center for the Study of Ethics'
Subject: RE:

Mike
Did you get a copy of the Thanks e-mail from Felipe Cabrera?
I offered to assist if more work needs done. I have also asked
again what next. If I hear I will let you know.
I will send you the discs as soon as I can; any dead line? I want
a copy of your report.
Ed

From: Center for the Study of Ethics[SMTP:csep@charlie.cns.iit.edu]
Sent: Friday, October 04, 1996 1:32PM
To: Mechler, Edmund

To: Ed Mechler
From: Michael Davis

I happily accept your offer of a diskette copy of records of ethics
project. Our paper records may, or may not, be complete.

By the way: what happens next? I keep on waiting for somebody to object
to what we've done!

Center for the Study of Ethics in the Professions
Illinois Institute of Technology
3101 S. Dearborn St., Rm.166 LS phone:(312)567-3017
Chicago, IL 60616-3793 fax: (312)567-3016
csep@charlie.cns.iit.edu

From: Mechler, Edmund
Sent: Friday, October 04, 1996 10:35 AM
To: 'L-F Cabrera'
Subject: SEEPP

Felipe

Thanks for the "Thanks e-mail" and CC to the group. Again if additional work is required we are available. Also, the product is available in other formats if you require a better version; it is held now in "Word".

I have a new e-mail address
emechler@eri.eqt.com

I will keep open the CompuServe one for the project for a while. The new one is under "Exchange" and as you know this is much better, except I need to get a book for various areas I can not get an answer for; too far ahead of total implementation.

What is the status of the Joint Steering Committee and three task forces?
When I read about this endeavor, it became very important to me. We really need to move in the direction proposed. Will the results be published? If you need any help, in any area, please contact me.

Ed

From: Mechler, Edmund
Sent: Thursday, October 03, 1996 8:24 AM
To: 'Mike Davis'
Subject: SEEPP Notes

Mike

First of all my new e-mail address is
emechler@eri.eqt.com

I am keeping the CompuServe one for SEEPP only.

I think the Ethics project is complete but I will probe more. I have placed all my e-mails in two directories in text format; two because I separated SEEPP and SEEPP/E. You said one time you wanted a copy for the study. Each one has all the sent/receive notations but the data is still there. My guess is three or four discs. Let me know.

Ed