



SOFTWARE MAINTENANCE NEWS

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Herewith I am starting a new column titled "Software Maintenance Notes." I have suffered (believe me, it was painful) software maintenance for at least half (does that sound familiar?) of my over 14 years of programming experience. That set me thinking, studying (i.e., researching), writing, and (at the cost of being outspoken) doing something to make maintenance programming a decent work. My goal is to make it a highly respected discipline, I would even dare to call it "Software Maintenance Engineering." I have found that some of the "structured" vendors (so called experts selling structured methodology courses, books, snake-oil bottles, and so on), and structured gurus have done very little to help the poor maintenance programmer. Was it because "maintenance" was a dirty word, and the subject was not easy to sell? I am sure they were not naive to believe that by following their methods all the maintenance problems will go away. And assuming that with the new structured software, the maintenance problems will go away (which is unlikely), how about the billions of lines of existing software, mostly unstructured.

But why did the programmers did not raise their voice? Why did they not complain? There are several reasons. Let's examine some of them.

Programmers by nature are not revolutionary. They are quiet workers, and like to be glued to their chairs, buried on their desks solving esoteric problems. There are, however, some exceptions.

They haven't seen anything better. Or not until structured programming came about. And it came late, or at least the use of the techniques started late. And yet, I do not know how many companies use the techniques seriously and correctly. We do not even have a commonly accepted definition of structured programming. Every one uses the term claiming to know it, but a confusion seems to prevail in the industry. Every one has his/her own notions about what structured programming is.

Most programmers responsible for maintenance avoid complaining. It seems they are afraid that they may be called incompetent, and may even be fired. And their future will be finished if they cannot get good reference from the present employer. Obviously they are afraid to speak out. However, I think they must speak up, though diplomatically. (One way is to write to me. I will preserve anonymity as appropriate).

Imagine that you are asked to go at a certain address in a large unstructured city where roads crisscross with indiscriminate branches, dead ends without warnings abound, signs on many streets are missing, or even worse, are incorrect, and so on. You have come from another city, and even a map (documentation) is not available for this mysterious city. To make things worse, you are given a tight dead line to reach the destination, and you are not formally trained to drive or maintain a car. You have learned (mostly by your self) driving on the road, and even do not know you have learned good practices or picked up bad habits. Also help is not available. When you turn to people on the street for help, they say "Sorry, we don't know!"

What will you do? One way is to drive whole day and night until you find the address. Of course while you search for the address, you will keep notes, maybe scribble a map, for your own use in future for another impossible assignment. Or you may prefer not to make any notes. That is, you keep records in your mind -- with your super memory. After couple months of such assignments, if you do not give up before that, you know the city pretty well, at least the addresses that you are asked to go to often. Now you are comfortable on your assignments. In fact you may become an expert. You are needed. You feel important, and now you may not want to do anything else. Or you may want to do something else as you are tired of wandering in the same city, however, you may not be allowed.

When you are sick, or get promoted, or God forbid, decide to quit, what happens? There is practically no time to record, that is, document what you have learned. A new recruit, or someone who is to be punished, takes over, and the vicious cycle begins all over.

That may be an extreme example, however, I do not think it is uncommon.

To add insult to injury there may be maps, but they may be misleading, or plain wrong. This situation is even worse than no maps at all.

Same way in the large computer programs, there may not be any documentation, or it may be confusing and misleading documentation. And the comments, data names, and paragraph names in the program may be misleading. Think how much confusion, and wasted effort this will cause. Similar situation is prevalent in many environments.

It seems I am angry. (But unless you have gone through some of the experiences that I have been through, you may not be able to appreciate). One referee of a scholarly journal in which I submitted an article on maintenance commented, the author is lamenting that nobody is paying any attention to him. It seems that maintenance and maintenance problems take the back seat. Nobody wants to talk about the problems. Even the programmers who have to deal with the problems almost on daily basis, and sometimes even on mid-night basis, are also trying to forget about them. Or after effort of months, as they start understanding the system, they do not want to complain.

So these are the random notes on software maintenance. The subject is scattered and disorganized. there is no standard definition of the subject, and even it is misunderstood. When did the subject start in the computer field? It started right with the electronic computer, because computer needed software, and that software, as soon as it was working, or made to work, needed corrections, changes, etc. We have now become aware of the staggering maintenance problems, and are now struggling to solve them.

This is your column. You are invited to send me your experiences, comments, suggestions, jokes, cartoons that you have scribbled, anecdotes, both funny and serious, praises, and complains, and so on.

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Please look at the bottom half off Page 34 concerning your participation in a Software Maintenance Hater's Handbook.