Ethical Values in Software Development

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By

Pankaj Kumar
(pankaj@glug4muz.org)
Research Scholar, MCA Course, University Department of Mathematics
B. R. Ambedkar Bihar University, Muzaffarpur, Bihar

And

Dr. A. K. Singh
(ajaypunamsingh@gmail.com)
Ex-Director, MCA Course, University Department of Mathematics
B. R. Ambedkar Bihar University, Muzaffarpur, Bihar

Abstract

This paper highlights ethical values in software development process. The use of software has become integral part of day to day activity of common man. Software is used in all aspects of human life. It is being used as one of the core component of technology used for human welfare. So the role of ethics to be followed by software developers has become more important. However still there is no standard "Code of Ethics" for professionals related to software development. This leads to dissimilar pattern of practices used by software development professionals all over the world. It also has effect on the quality of software produced daily all over the world. This paper is an attempt to define a code of conduct for software development professionals leading to the ethical values to be followed by them in their profession

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Introduction

The use of software in daily life is increasing day by day. Software is being used in almost all aspects of human life. So it has become one of the core component of technology used for human welfare. A lot of human welfare activity is being done with the help of software. Almost all organizations involved in human welfare related activities are using software in one or more forms. In addition to this, software is being used by common man in his day to day activity. So the quality of software is having direct effect on the human life. Therefore the importance of development of quality based software is increasing day by day. This leads to the use of some "code of ethics" to be followed by coders. However still there is no standard code of ethics available for software developers. So there is no standard practice in the field of software development. The ultimate aim of software developers is to satisfy their clients requirements. And in this process every software developer is trying his/her best to develop value for the users of his/her software. In the field of software, the value of the system implies several things. The most visible values of a software are ease of use, performance, features etc. A software can have all these values with a crappy source code. But in this case the software developer will not be able to sustain these values for a long term. It will become impossible for the developer to maintain the software

with the introduction of new features required by the client. When software developer will try to integrate new feature in the software then it will introduce new bugs. When the developer will try to fix these bugs then it will generate another set of bugs. The behavior of the software will ultimately become out of control from the developer. It will lead to exponential decrease in the value of the software and finally the software will collapse. It is therefore the responsibility of the developer to maintain the hidden value of the software at the time of developing it so that its visible values can be maintained for a long interval of time. Writing good and clean source code is most important hidden value of the software developer which leads to the long life of visible value of the software. However it is also the responsibility of software developer to release the software on time. So sometimes if a software developers stick to his principle of clean coding then it may lead to delay in the release of the software which will ultimately decrease the value of the software from the point of view of client. So software developer has always to maintain the value of the software both from the point of view of client such as ease of use, performance, features as well as the value from the point of view of longevity of the software. In order to maintain the value of the software, a developer should posses some important characteristics as explained in the following sections.

Software Developer's Characteristics

A value based software can only be developed by a software developer having following characteristics:

A. Accuracy: Software developer should always write accurate code. The determination of accuracy of a source code is extremely difficult task. It can not only be determined with the help of sample execution of the code. At the time of demonstration of performance of software, it may generate correct output with sample set of data but later on with the real life data in due course it may produce some wrong output. The software developer should make sure that the code is accurate enough to generate correct output in all situations. If developer will avoid logical errors in the source code then it will save the client and employer from both legal and financial trouble in future.

B. Plagiarism: Making use of another programmer code is one of the most common activity in software development. In order to meet the deadline of a software project, normally all software developers makes use of another code. Software developers are taught not to reinvent the wheel in order to speed up the software developer process. But at the time of making use of another code, a software developer should not claim that it is his/her original code. The term plagiarism refers to the copying of another work combined with the claim that it is original code. The software developer should avoid plagiarism and should always acknowledge the work of another programmer while making use of that programmer in current software developer project.

C. Comments: The software developer must put proper comments in code. This leads to the long life of the code as in future the code can also be understood and maintained by another coder if the original coder is not available at that time. Normally at the time of writing code, developers avoid writing comments in order to save time. Since the logic of the code is available in the mind of the developer at that time and so they don't want to write comments. But later on while implementing new features in the old code, logic of the existing code can become complex enough for the same coder. So from the future point of view, developer must write comments in their code.

D. Malware: The term malware refers to harmful software such as virus and spyware.