Computing for Human Services

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Chapter 10

Software Engineering and Ethical Values

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10.1. Introduction

The world market for computer-based applications is worth hundreds of billions USD and it affects almost all peoples' life directly or indirectly. Farther more it includes a reasonable ratio of workforce. Software is heart of computer-based applications, which requires qualified professional and ethical software engineer. Computer ethics discipline is growing rapidly as computer technology grows and develops. Stanford encyclopedia of philosophy [1] considers computer ethics as the efforts of applying traditional ethical theories to the use of computer technology. It might be include standards of professional practice, codes of conduct, aspect of computer law, public policy, and corporate ethics beside certain topics in the sociology and psychology of computing. Other LR defined computer ethics as examining "ethical problems aggravated, transformed or created by computer technology" [2]. This broad view of computer ethics employs concepts, theories and methodologies from applied ethics, sociology of computing, technology assessment, computer law, and other relevant disciplines [3]. Computer ethics should be viewed as a branch of professional ethics, which is concerned primarily with standards of practice and codes of conduct of computing professionals [4]. Gotterbarn has been involved as co-author foe third version of the ACM Code of Ethics and Professional Conduct to establish licensing standards for software engineers [5, 6]. Codes of ethics facing several limitations that leads to lack of rules of offering adequate guidance in complex situations [7]. In his book Sommerville [8] denoted that: Software engineers must accept that their work involves wider responsibilities. They should behave in moral responsible way if they are to be respected as professionals. To understand software engineering ethics, we have to discuss the concept of ethics, its problems, and its role in our life. Islamic viewpoint of ethic is a recognizable and effective that we have to adopt it [17]. This chapter explains an enhanced version of a web-based database prototype with sample of implementation results.