On the Issue of Assessing the Quality of Information Systems

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Abstract. This paper discusses the issue of assessing the quality of information systems. Often, quality is defined as "compliance" and "suitability for use". "Compliance" implies that the requirements must be so clearly defined that they can't be understood and interpreted incorrectly. Later, during the development phase, regular measurements of the developed product are made to determine compliance with the requirements. Any inconsistencies should be treated as defects. "Suitability for use" takes into account the requirements and expectations of the end users of the product, who expect that the product or service provided will be convenient for their needs. However, different users may use the product in different ways. This means that the product should have the most diverse use cases.

As can be seen from the above general definitions of quality, the task of evaluation is extremely difficult due to the diversity of user interests. Most often, it is impossible to offer a single universal measure of quality and you have to use a number of characteristics that cover the entire range of requirements. Software quality models are the closest to the tasks of assessing the quality of information systems. Currently, several abstract models of software quality are used. The paper considers some of them – the McCall model and the Boehm model. These models are conceptual and are suitable for evaluating the quality of any information systems.

In addition to the consideration of conceptual models, special attention is paid to the evaluation of the parameters of ready-made systems, such as the cost of development, time costs, and labor intensity. There are both linear approaches that use the simplest formulas, and various models that operate on empirical data – for example, SLIM and COCOMO. These models are often used in software packages such as Duvessa Estimate Easy UC and SoftStar SystemStar & Costar, also mentioned in this paper. In addition, it is necessary to mention various products for evaluating code size and complexity metrics.

Keywords: quality, McCall model, Boehm model, cost, labor intensity, time cost, SLIM, COCOMO.

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