

A Comprehensive Review on Software Comprehension Models

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Abstract

Software comprehension is one of the most important among software development tasks since most developers do not start a brand new software every time they switch jobs or get transferred from one project to another but join long-running software projects. Every experienced and expert developer has their own established methods of understanding complex software systems. These methods might be different for everyone but they still have common aspects by which multiple well-defined code comprehension models can be constructed. Furthermore, the degree of understanding of a software can be categorized as well, according to the ability of the programmer to modify or develop a certain part of the software system. This paper is intended to provide a review of the cognitive software comprehension models established by extensive research in this topic as well as describe a classification of the degree of understanding software. It also points out the deficiencies of the comprehension models and the correlation between the degree and method of software comprehension.

Keywords: code comprehension, comprehension model, code cognition, taxonomy,