

THE DEVELOPMENT AND QUALITY ANALYSIS OF COMPUTER FAILURE DIAGNOSTIC EXPERT SYSTEM APPLICATION

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ABSTRACT

This research aims to develop Computer Failure Diagnostic Expert System Application using Java programming language and SQLite database; and perform quality analysis of developed application, especially on four quality factors: correctness, functionality, portability, and usability.

The development of Computer Failure Diagnostic Expert System was using software engineering principle that started from planning, modeling, construction, and deployment processes. The analysis of correctness quality factor was performed by calculate the number of error per KLOC (Kilo Lines of Code). The analysis of functionality quality factor was performed by testing each function of application. The analysis of portability quality factor was performed by testing the application to run on multiple different operating systems. The analysis of usability quality factor was conducted by questionnaire method with student of Class XI-TKJ of SMK Muhammadiyah 2 Yogyakarta as the respondents.

The results of the application development processes were a Computer Failure Diagnostic Expert System as runnable file. The result of quality analysis showed that application developed meet each standard of quality factor tested: correctness, functionality, portability, and usability.

Keywords: expert system, java, sqlite, software quality, correctness, functionality, portability, usability