

Software maintainability assessment based on collaborative CMMI model

ABSTRACT

Software constantly needs new features or bug fixes. Maintainable software is simple to extend and fix which encourages the software's uptake and use. The Software Sustainability Institute can advise you on the design and development of maintainable software that will benefit both you and your users. Therefore, capability maturity model integration (CMMI) is a process improvement approach that provides organisations with the essential elements of effective processes that ultimately improve their performance. The propose maintainability assessment of cmmi based on multi-agent system (MAS) to identify the processes measurement of SM. in order to verify our proposed CMMI framework based on MAS architecture, pilot study is conducted using a questionnaire survey. Rasch model is used to analyse the pilot data. Items reliability is found strong correlation between measured and the model designed. The results shows that the person raw score-to-measure correlation is 0.51 (approximate due to missing data) and Cronbach Alpha (kr-20) person raw score reliability = .94.

Keyword: Capability maturity model integration; Software maintenance; Software maintenance process; Multi agent system; Rasch model