

摘要

在軟體開發的過程中，有效的需求管理能促成高品質的軟體及管理。在 CMMI 中與需求管理有關的議題包括需求發展(Requirements Development)流程領域-屬於 CMMI 成熟度第三級，提供一些目標、執行方法(practices)和相關資訊作為指引，協助開發團隊發展顧客需求和產品需求。另一個相關議題-需求管理(Requirements Management) 流程領域，屬於 CMMI 成熟度第二級，可用於幫助需求管理的規劃與控制，建立追蹤機制，以及評估改變衝擊。

本篇論文以達成 CMMI 中需求發展和需求管理流程領域目標為前提，利用概念形成(Concept Formulation)和系統展示(System Representation)研究方法，並調適 RUP 中的需求工作流程(workflow)，最後發展出一個整合的需求管理架構-稱為 IREQM(Integrated Requirements Management)，用於處理需求面的問題。本研究亦根據 IREQM 架構進行實作，發展出一套可協助軟體需求發展與管理的支援系統。最後，我們利用自我評鑑表，評估 IREQM 及依據 IREQM 實作的雛型系統與 CMMI 目標和執行方法相符的程度。

關鍵字：能力成熟度整合模式、統一流程、需求管理、需求工程

ABSTRACT

Effective requirements management can help the software development process to ensure a high-quality software development and management process. In CMMI, the process area RD (Requirements Development) provides a set of goals, practices, and related features to develop customer and product requirements, and the process area REQM (Requirements Management) is to help establishing and appraising the quality of requirements management. Both issues are covered by the generic requirement management concerns.

This study is conducted by the Concept Formulation and System Representation method to develop a systematic process to deal with the requirements issues in the software development process, in order to meet the RD and REQM goals in CMMI. The study proposes an integrated requirement management framework, called IREQM, tailored from the requirements workflow in RUP. A CMMI support system, to implement IREQM is established to facilitate the REQM and RD activities during the software development process. Finally, a self-appraisal checklist is used to evaluate the compliance of the IREQM framework and its implementation to the CMMI model.

Keywords: CMMI, RUP, Requirements Management, Requirements Engineering