

The Impact of Architectural Designs on Sustainability of Software Systems

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Abstract

Architectural design is the first stage in the software design process since it provides a critical link between design and requirements engineering. It's an important stage to every software developer as it identifies the main structural components in a system and the relationships between them. Today increasing attention is being paid to the broad effects of software on society and the need to embody longer-term thinking, ethical responsibility, and an understanding of sustainability into the design of software systems. The purpose of this study was to establish the impact of architectural designs on sustainability of software systems. For this study desk research methodology was adopted. The secondary data from published reports was discussed with emphasis on the area of interest to this study. The findings of this study indicated that the software profession lacks a common ground that articulates its role in sustainability design. The study thus proposes that there should be approaches for identification and analysis of evolution problems in the life cycle of software systems early in the architectural design stage. It also recommends that there should be sustainability guidelines that will enable software engineers develop software with higher quality and lower evolution costs.

Key Words: Architectural Designs, Sustainability, Software Systems, Software architectures