

# **IMPLEMENTATION OF FUSION MODEL TO RE-ENGINEER LEGACY SOFTWARE**

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## **ABSTRACT**

Software re-engineering, is a recent research area which includes reverse engineering, forward engineering and reengineering. In this paper, the software reengineering process model proposed by the same authors in another paper titled “Proposed Software Re-engineering Process That Combine Traditional Software Re-engineering Process with Spiral Model” [1] is validated by implementing it on a legacy system, and its name is renamed as FUSION model. This new model incorporates both the reverse engineering process and forward engineering process integrated with spiral model where reverse engineering applies to existing system code to extract design & requirements, although this is often used as means to mitigate risks & reduce operation and maintenance cost of the software system. This paper briefly describes the FUSION model which can be used to simplify the complex tasks. The paper represents how the legacy supermarket management system can be re-engineered using the new approach then the result of comparison between the legacy software and the re-engineered software will be presented. The features of the FUSION model are also presented in later section of the paper.

**KEYWORDS:** Cyclomatic Complexity, Quality Metrics, Reverse Engineering, Risk Assessment, Software Engineering, Software Re-Engineering Process