




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# An Integrated, Probabilistic Framework for Requirement Change Impact Analysis

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## Abstract

Impact analysis is an essential part of change management. Without adequate analysis it is not possible to confidently determine the extent, complexity and cost of proposed changes to a software system. This diminishes the ability of a developer or maintainer to make informed decisions regarding the inclusion or rejection of proposed changes. The lack of coherent impact analysis can also hinder the process of ensuring that all system components affected by a change are updated. The abstract nature of requirement level entities has meant that current impact analysis techniques have focused largely on design and code level artifacts. This paper proposes a novel approach which integrates traditional impact analysis with experience based techniques to extend current approaches to support requirement level impact analysis. Central to this approach is the use of probability to assist in the combination and presentation of predicted impact propagation paths. An Auto Teller Machine (ATM) example is used to illustrate the approach.


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