Abstract

Keeping up with the advancement in hardware technology, the size and complexity of software systems are increasing at a rapid rate, thus, making them difficult to maintain, expand, and evolve. To alleviate such difficulties, change impact analysis (CIA) and its implementations has been the subject of research for several years. Generally, CIA facilitates regression testing. Specifically, CIA helps to estimate the potential consequences of a software change, including the affected module(s) and their data dependencies, re-testing needs, as well as the required resource planning. Historically, many CIA implementations use static analysis and traditional text-based impact reporting. Although useful, static based CIA implementations often cited as time- and effort-intensive (e.g. requiring extensive documentation/design search). Dynamic slicing is an option to address the aforementioned issues. However, the volume of analyzable data potentially impedes understanding. Visualization can be a good leverage for improving analyzability and understanding of impact analysis from dynamic slicing. In line with such a prospect, this paper offers a dynamic approach to visualize the impacts for support selective testing on regression testing.


A Dynamic Approach to Visualize the Impacts for Support Selective Testing on Regression Testing


**Index Terms**

Computer Science

Software Engineering

**Keywords**

dynamic change impact analysis regression testing