

Performance Analysis of Proprietary and Non-Proprietary Tools for Regression Testing Using Genetic Algorithm

Authors : K. Hema Shankari, R. Thirumalaiselvi, N. V. Balasubramanian

Abstract : The present paper addresses to the research in the area of regression testing with emphasis on automated tools as well as prioritization of test cases. The uniqueness of regression testing and its cyclic nature is pointed out. The difference in approach between industry, with business model as basis, and academia, with focus on data mining, is highlighted. Test Metrics are discussed as a prelude to our formula for prioritization; a case study is further discussed to illustrate this methodology. An industrial case study is also described in the paper, where the number of test cases is so large that they have to be grouped as Test Suites. In such situations, a genetic algorithm proposed by us can be used to reconfigure these Test Suites in each cycle of regression testing. The comparison is made between a proprietary tool and an open source tool using the above-mentioned metrics. Our approach is clarified through several tables.

Keywords : APFD metric, genetic algorithm, regression testing, RFT tool, test case prioritization, selenium tool

Conference Title : ICSED 2017 : International Conference on Software Engineering and Design

Conference Location : Berlin, Germany

Conference Dates : May 21-22, 2017