Abstract

In present era people depend on both hardware and software system. As software system is engrafted in every aspect of computer system, the desired quality of software is an essential concern for many critical system. From last few decades, many software reliability growth models were developed to analyze the growth of reliability. For improving the quality of software, SRGM plays an essential role. The present study proposed a Software Reliability Growth Model with testing effort and dynamic fault. The parameters involved in the proposed model are estimated using least square estimation. The performance of the proposed model is validated using Mean Square Error (MSE), Akaike Information Criterion (AIC) and R Squared Error (R2). A proposed Model is compared with existing models reported in literature, and it has been observed that proposed model performed better.
  - Huang, 2005, Cost-reliability-optimal release policy for software reliability models incorporating improvements in testing efficiency,"; J. Syst. Softw. pp. 139–155
  - Pachauri, Kumar and Dhar, 2014, Software reliability growth model with dynamic faults and optimal release time optimization using GA and MAUNT,"; Applied Math. , and comput. , pp 500-509
  - Quadri, Ahmad, Peer and Kumar, 2006, Non-homogeneous Poisson process software reliability growth model with generalized exponential testing effort function, RAU J. Res. pp. 159–163
  - Ahmad, Khan, Quadri and Kumar, 2009, Modeling and analysis of software reliability with Burr type-X testing-effort and release-time determination,"; J. Model. Manag. pp. 28–54
  - Rafi and Akhtar, 2010, Software reliability growth model with Gompertz TEF and optimal

- Brooks and Motley, 1980, Analysis of discrete software reliability models, RADC-TR, 80-84

Index Terms

Computer Science
Software Engineering

Keywords
Software Reliability  Software Reliability Growth Models  Test effort  Fault