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RELEASE PLANNING PROBLEM WITH TESTING COVERAGE AND FAULT REDUCTION FACTOR UNDER IMPERFECT DEBUGGING

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Abstract. In today's technical world, growing interest of the users is evident on the software systems, which eventually have dragged the attention of many academicians and practitioners. Over the last few years, several researches have been done in order to develop a highly reliable software system. This proposed study provides a valuable add on to the literature of software reliability growth model and related software release time problem. Paper discusses the software reliability growth models that incorporate testing coverage and Fault Reduction Factor simultaneously. Models are developed using non homogeneous Poisson Process and can be used to estimate the reliability of software system quantitatively. Further, we have determined the optimal time to release software into the market by minimizing the development cost subject to the reliability requirement.Paper finally takes into consideration sensitivity analysis in optimal release time problem taking into account the impact of variations in the cost parameters.

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