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Study of the Warranty Cost Model for Software Reliability with an Imperfect Debugging Phenomenon

D. R. PRINCE WILLIAMS

Department of Information Technology, Salalah College of Technology, Post Box: 608

Salalah-211, SULTANATE OF OMAN

e-mail: princeshree1@rediffmail.com

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 [Authors](#)



elektrik@tubitak.gov.tr

Abstract: Software reliability is one of the most important characteristics of software quality. Its measurement and management technologies employed during the software life-cycle are essential for producing and maintaining quality/reliable software systems. Herein, we discuss a modified approach to calculating the delivery cost of a software product, when warranty is to be provided, with an imperfect debugging phenomenon. Unlike existing cost models, here the strategy was to consider maintenance support given to the customer with an imperfect debugging phenomenon. The optimal release time can be calculated for various reliability levels by minimizing the cost. The delivery cost, reliability of the software system, and the optimal release time were calculated by using an imperfect debugging software reliability growth model. Numerical illustration supports the optimal release policies

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