Abstract

Software reliability engineering has gained considerable momentum in the recent past. A variety of models are available for the evaluation of software reliability. However the models, as such, cannot be applied for software based systems as any given system is comprised of both hardware and software. The present paper brings up an algorithm for determining reliability of software based systems by integrating both hardware reliability and software reliability. The open source software data is made use of and the methodology for evaluating the software reliability involves identifying a fixed number of packages at the start of the time and defining the
failure rate based on the failure data for these preset number of packages. The defined function of the failure rate is used to arrive at the software reliability model. The hardware reliability is obtained using constant hazard model.

Reference

- Weiguo Li, Yongfu Wang, He Huang. A new model for software reliability. Fifth international Joint Conference on INC, IMS and IDC, 2009 IEEE.
- http://www.debian.org

**Index Terms**

Computer Science  
Software Engineering

**Key words**

Failure rate

hardware  
reliability  
software