A Categorized Review on Software Security Testing

International Journal of Computer Applications

Foundation of Computer Science (FCS), NY, USA

Volume 154

Number 1

Year of Publication: 2016

Authors:

Neha Mahendra, Suhel Ahmad Khan

10.5120/ijca2016912023

Abstract

The main objective of security testing is to check the weaknesses of the implemented security mechanism. It is done for finding the vulnerabilities of a system and to determine whether the system is protected from intruders or not. Security testing can be done prior to production or after the production of the system. But, if the security testing is done after the production, then cost will be more and the huge amount of rework will be required to remove the problems. Also the time between the vulnerability is get known and the malicious attack against it, is becoming less. Therefore it is required to include the security testing in the early phases of software development life cycle. The present paper deals with the review of software security testing approaches and techniques proposed so far. The review is presented in a categorized way and tabulated for the last one and half decade (2000-2015).

References

20. Andrea Avancini, Mariano Ceccato, “Towards security testing with taint analysis and
genetic algorithms” Proceedings of the 2010 ICSE Workshop on Software Engineering for
doi>10.1145/1809100.1809110.

21. B. Smith, "Systematizing security test case planning using functional requirements
phrases," 2011 33rd International Conference on Software Engineering (ICSE), Honolulu, HI,
2011, pp. 1136-1137.

Models," BioMedical Computing (BioMedCom), 2012 ASE/IEEE International Conference on,

Verification and Validation Workshops (ICSTW), 2014 IEEE Seventh International Conference
on, Cleveland, OH, 2014, pp. 4-11.

24. L. b. Othmane, P. Angin and B. Bhargava, "Using Assurance Cases to Develop

Testing”, World Academy of Science, Engineering and Technology 69 2010.

Process”, (IJCSIT) International Journal of Computer Science and Information Technologies,
Vol. 2 (6), 2011, 2627-2631, ISSN: 0975-9646.

27. Hossian Shahriar, Mohammad Zulkernine, “Mitigating program security vulnerabilities:
Approaches and challenges”, ACM Computing Surveys (CSUR), Volume 44 Issue 3, June 2012
Article No. 11, ACM New York, NY, USA, ISSN: 0360-0300 EISSLN: 1557-7341.

Index Terms

Computer Science

Software Engineering

Keywords

Security testing, software development life cycle, SDLC phase