

Towards cross-site scripting vulnerability detection in mobile web applications

ABSTRACT

Cross-site scripting vulnerabilities are among the top ten security vulnerabilities affecting web applications for the past decade and mobile version web applications more recently. They can cause serious problems for web users such as loss of personal information to web attackers, including financial and health information, denial of service attacks, and exposure to malware and viruses. Most of the proposed solutions focused only on the Desktop versions of web applications and overlooked the mobile versions. Increasing use of mobile phones to access web applications increases the threat of cross-site scripting attacks on mobile phones. This paper presents work in progress on detecting cross-site scripting vulnerabilities in mobile versions of web applications. It proposes an enhanced genetic algorithm-based approach that detects cross-site scripting vulnerabilities in mobile versions of web applications. This approach has been used in our previous work and successfully detected the said vulnerabilities in Desktop web applications. It has been enhanced and is currently being tested in mobile versions of web applications. Preliminary results have indicated success in the mobile versions of web applications also. This approach will enable web developers find cross-site scripting vulnerabilities in the mobile versions of their web applications before their release.

Keyword: Cross-site scripting; Cross-site scripting vulnerability; Software security; Software testing; Vulnerability detection