A Framework to Enhance Privacy-Awareness in Mobile Web Systems

By

Nahier Aldhafferi

BCS (DTC), MIT (UOW)

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Principal Supervisor: Dr. David Miron

Co-Supervisor: Professor Aron Murphy

Co-Supervisor: Professor Trevor Brown

School of Science and Technology

University of New England

Armidale, Australia

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Declaration

Regarding the ideas, investigation, analysis, discussion and conclusions reported in this thesis, I certify that all these are entirely my own work. I also certify that the content of the study is original and has not been previously submitted.

Signature:

Nahier Aldhafferi Date: 06-08-2014

Abstract

In the last decade, the use of online social network sites has dramatically increased and these sites have succeeded in attracting a large number of users. The social network site has become a daily tool people use to find out about the latest news and to share details of their personal information. Many people use Internet mobile devices to browse these sites. The widespread use of some technologies unnecessarily puts the privacy of users at risk, even when these users remain anonymous,. This study examines the risks to privacy surrounding the misuse of users' personal information, such as maintaining trustworthy sites, as well as privacy issues associated with sharing personal information with others. This study also develops a framework to enhance privacy awareness in mobile Web systems. A privacy framework is proposed that incorporates suitability in the design and flexibility in the use to suit different types of Web mobile devices, and provides simple ways of adjusting and creating different privacy policies. This framework allows the user to create different levels of privacy settings and to better manage the exchange of personal information with other sites.

The proposed conceptual model for this study is derived from a review of the literature and the current privacy models. It shows how online users are able to create different privacy policies and set different policies to access the data. It also explains how the centrality of personal information details in one server will limit the distribution of personal information over the Internet and will provide users with more authority to control the sharing of their information with other websites. The design of the proposed framework is derived from developing other privacy models and adding new ideas that enhance the security level of protecting the privacy of users' information.

The study consists of five main tasks that include two different qualitative methodologies, programming two applications and testing the framework. The data were collected by using two different languages, Arabic and English, and both programming languages (ASP.net and SQL Server 2008) were used to design the privacy framework to deal with databases and simulate real communication between users, in order to achieve the main goal of designing the privacy framework.

This study contributes to providing a security environment for protecting the privacy of personal information. The findings provide greater understanding of privacy concerns and trust and how the current privacy models can be deployed via Internet mobile devices to control different privacy settings for different social media networks.

List of publications during the PhD study period

ALDHAFFERI, N., WATSON, C. & SAJEEV, A. 2013. Personal Information Privacy Settings of Online Social Networks and their Suitability for Mobile Internet Devices. *International Journal of Security, Privacy and Trust Management (IJSPTM),* vol. 2, No 2, April 2013, DOI: 10.5121/ijsptm.2013.2201.

ALDHAFFERI, N., WATSON, C. & SAJEEV, A. 2013. A Smart Wizard System Suitable for Use with Internet Mobile Devices to Adjust Personal Information Privacy Settings. *International Journal of Security, Privacy and Trust Management (IJSPTM),* vol. 2, No 3, June 2013, DOI: 10.5121/ijsptm.2013.2301.

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Nahier Aldhafferi

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