

Preface

Innovations in Mobile Privacy and Security, IMPS was a one-day workshop that was held on 6th April 2016, in conjunction with Engineering Secure Software and Systems, ESSoS 16, in Royal Holloway, University of London, UK. The workshop aimed to bring together researchers working on challenges in security and privacy for mobile platforms, broadly considered. We invited a Programme Committee of 17 research experts whose backgrounds covered security and privacy spanning several aspects: theoretical and rigorous foundations; systems and technology; and usable security and privacy. The workshop received 11 submissions which were reviewed by the PC and their delegates. Six papers were selected for presentation at the workshop, alongside two invited talks given by Alastair Beresford (University of Cambridge) and Eric Bodden (Paderborn University). This proceedings contains revised versions of the accepted submissions and papers for the two invited talks. The organisers are grateful to the PC and other reviewers for their help in supporting the workshop, including providing careful reviews and feedback for the authors.

1st April, 2016.

David Aspinall
Lorenzo Cavallaro
Mohamed Nassim Seghir
Melanie Volkamer
(Organisers and PC Chairs)

Table of Contents

Reverse Engineering Android Apps With CodeInspect	1
<i>Eric Bodden, Siegfried Rasthofer, Steven Arzt and Marc Miltenberger</i>	
Whack-A-Mole Security: Incentivising the Production, Delivery and Installation of Security Updates	9
<i>Alastair Beresford</i>	
PhoneWrap - Injecting the “How often” into mobile apps	11
<i>Daniel Franzen and David Aspinall</i>	
ARTDroid: a virtual-method hooking framework on Android ART runtime	20
<i>Valerio Costamagna and Cong Zheng</i>	
Towards Automated Android App Collusion Detection	29
<i>Irina Asavoaie, Jorge Blasco, Thomas Chen, Harsha Kalutarage, Igor Muttik, Hoang Nga Nguyen, Markus Roggenbach and Siraj A. Shaikh</i>	
Explaining Unwanted Behaviours in Context	38
<i>Wei Chen, David Aspinall, Andrew D. Gordon, Charles Sutton and Igor Muttik</i>	
Privacy Friendly Apps - Making Developers Aware of Privacy Violations .	46
<i>Karola Marky, Andreas Gutmann, Philipp Rack and Melanie Volkamer</i>	
How to improve programmers’ expertise at app security?	49
<i>Charles Weir, Awais Rashid and James Noble</i>	

Program Committee

David Aspinall	University of Edinburgh
David Barrera	ETH Zürich
Alastair Beresford	University of Cambridge
Lorenzo Cavallaro	Royal Holloway, University of London
Mihai Christodorescu	Qualcomm Research Silicon Valley
William Enck	North Carolina State University
Lenzini Gabriele	SnT/University of Luxembourg
Mohammad Mannan	Concordia University
Delphine Reinhardt	University of Bonn
Karen Renaud	University of Glasgow
William Robertson	Northeastern University
Mohamed Nassim Seghir	University of Edinburgh
Siraj A. Shaikh	Coventry University
Melanie Volkamer	Technische Universität Darmstadt
Fabian Yamaguchi	University of Goettingen
Roland Yap	National University of Singapore
Cong Zheng	Palo Alto Networks

Additional Reviewers

Madeline Cheah
Wei Chen
Paul Gerber
Collin Mulliner
Hoang Nga Nguyen
Siegfried Rasthofer
Dayana Spagnuolo