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The social impact of using automatic identification technologies and location-based services in national security

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**The Social Impact of Using Automatic Identification
Technologies and Location-Based Services in
National Security**

A thesis submitted in fulfilment of the
requirements for the award of the degree

DOCTOR OF PHILOSOPHY

from

UNIVERSITY OF WOLLONGONG

by

HOLLY IRENE TOOTELL

BInfoTech (Hons)

School of Information Systems and Technology

2007

Author's Certification

I, Holly Irene Tootell, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Informatics, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualification at any other academic institution.

Holly Irene Tootell

24 August 2007

Dedication

*To the memory of
Norman Frederick Laycock
(1917 – 2006)*

Abstract

This study seeks to explore the use of automatic identification technologies (auto-ID) and location-based services (LBS) in national security initiatives. Public awareness of national security has increased significantly since the terrorist attacks in the United States of America on 11 September 2001. Location-based services require technologies such as radio frequency identification, the global positioning system, and biometric identification, to provide applications such as immigration and visa control functions to advanced home-detention. Location applications have the potential to be privacy insensitive and pervasive. These potential traits need to be balanced with benefits that the technologies offer.

Critical Social Theory (CST) is the lens through which motivations of government and public perception have been examined. CST allows the issue of auto-ID and LBS adoption for national security to be studied by examining events of national security significance through public reaction as documented in popular media.

For future advancement of government-driven solutions to national security threats and preparations, it is imperative that current research look beyond the technology-based solutions to develop a greater awareness of their implications. The aim of this research is to provide insight into the use of auto-ID and location-based services in national security in order to understand how social aspects of technology can impact lifeworld perception of the use of the technology.

The research has achieved this aim through a review of the literature in the field of auto-ID and LBS intersecting with the social implications of technology. This intersection has identified social shaping factors of recent national security events which have contributed to the investigation of recent national security events to establish the social context in which auto-ID and LBS technology is being used. A paradigm for understanding and discovering the proposed impact of future auto-ID and LBS applications being used in national security has been established and is referred to as the PSL (Privacy, Security, Liberty) Trichotomy.

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My supervisor, Dr Katina Michael (2004 – 2007) has provided me with the inspiration and encouragement to bring this research to a close. Not once did you doubt my ability to succeed. Your honesty and compassion have been constant throughout my thesis journey. That we have been able to work together as colleagues has strengthened my respect and admiration for you.

The support of my loved ones is a blessing. To my parents, Stuart and Kristine, and sister and brother-in-law, Ashleigh and Dean, to my Nan, and my extended family, thank you for believing in me. You have always encouraged me to strive for higher things and this thesis has been accomplished with your love and support. I have been blessed with many special friends and I thank each of you for your daily encouragement. You have never wavered in your support of me and more than once I could feel you helping me get back on my feet to continue this journey.

I have great respect for the assistance of Dr Robert Clark from the Statistical Consulting Service, and Annette Meldrum and Lucia Tome from the Library. Special thanks to research assistants Cristina Trkulja and Alison Freeman for your attention to detail, and my gratitude to Dr M.G. Michael for his encouragement and insights.

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Lastly, my husband has been my rock. Adrian, your insight and patience have been my inspiration. You have walked with me through this thesis, leading by example with conviction and persistence. It is now the start of a new chapter in our life together. With the love we share I continue to look forward to our journey together. Guided by God's purpose we will achieve so much.

But those who hope in the LORD will renew their strength. They will soar on wings like eagles; they will run and not grow weary, they will walk and not be faint. *Isaiah 40:31*

Publications

Refereed Conference Proceedings

Tootell, H. I. 2006, 'Location-Based Services and the Price of Security', in R. Brody (eds), IEEE Society on Social Implications of Technology: International Symposium on Technology and Society (ISTAS06): Disaster Preparedness and Recovery, IEEE, Piscataway, NJ, USA, CD Rom.

Michael, K., McNamee, A., Michael, M. & Tootell, H. I. 2006, 'Location-Based Intelligence-Modeling Behavior in Humans using GPS', in R. Brody (eds), IEEE Society on Social Implications of Technology: International Symposium on Technology and Society (ISTAS06): Disaster Preparedness and Recovery, IEEE, Piscataway, NJ, USA, CD Rom.

Tootell, H. I. 2006, 'Understanding Human Attitudes to Location-Based Counter-Terrorism Measures', in P. Mendis, J. Lai & E. Dawson (eds), Recent advances in security technology : proceedings of the 2006 RNSA Security Technology Conference, Australian Homeland Security Research Centre, Canberra, pp. 180 - 189.

Tootell, H. I. 2006, 'The Application of Critical Social Theory to National Security Research', in K. Michael & M. Michael (eds), The social implications of information security measures on citizens and business, University of Wollongong, Wollongong, pp. 155-163.

Michael, K., Michael, M., Tootell, H. I. & Baker, V. A. 2006, 'The Hybridization of Automatic Identification Techniques in Mass Market Applications: Towards a Model of Coexistence', in K. Chai, C. Heng & M. Xie (eds), 2006 IEEE International Conference on Management of Innovation and Technology, IEEE, Singapore, pp. 1043-1047.

Michael, K. & Tootell, H. I. 2005, 'Introducing Location-Based Services into Information Technology Curriculum: Reflections on Practice', International Conference on Mobile Business ICMB2005, IEEE, USA, pp. 220-226.

Tootell, H. I. 2005, 'Investigating the Relationship Between Location-Based Services and National Security', in R. Harris & H. King (eds), Tencon2005 - 2005 IEEE Region 10 Conference, IEEE, Australia, CD Rom.

Tootell, H. I., Chance, S. & Morris, E. 2004, 'The Impact of Anti-Terrorism Legislation on Dataveillance', in P. Swatman (eds), COLLECTeR 2004 Twelfth COLLECTeR Workshop on eCommerce. Proceedings, COLLECTeR, www.collector.org/coll2004/proceedings.

James, B. A., Skillen, J., Percy, A. J., Tootell, H. I. & Irvine, H. J. 2004, 'From Integration to Transformation', Language & Academic Skills in Higher Education, Flinders University, Australia, pp. 127-137.

Tootell, H. I., Alcock, C. & Cooper, J. 2003, 'Consumer Concern and Privacy: A Transition from Pre-Web to Post-Web', in T. Acton (eds), COLLECTeR (Europe), National University of Ireland, Ireland, pp. 77-82.

Tootell, H. I., Alcock, C. & Hain, D. 2002, 'Understanding Attitudes Towards Internet Banking', in J. Cooper, C. Alcock, L. Burgess & K. Win (eds), COLLECTeR 2002, University of Wollongong, Wollongong, pp. CD Rom.

Journal Articles

Tootell, H. I. 2006, 'The application of critical social theory to national security research', Prometheus, vol. 24, no. 4, pp. 405-411.

Meldrum, A. M. & Tootell, H. I. 2004, 'Integrating Information Literacy into Curriculum Assessment Practice: An Informatics Case Study', Journal of University Teaching and Learning Practice, vol. 1, no. 2, pp. 49-58.

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List of Acronyms

aGPS	Assisted Global Positioning System
Auto-ID	Automatic Identification
CCTV	Closed-Circuit Television
Cell ID	Cell Identification
CST	Critical Social Theory
DoD	Department of Defense (USA)
E911	Emergency-911
EMA	Emergency Management Australia
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
GLONASS	Global Navigation Satellite System
GNCC	Guidance, Navigation and Control Centre
GPS	Global Positioning System
ICT	Information and Communication Technology
ID	Identification
INSPASS	Immigration and Nationalization Service Passenger Accelerated Services System
IS	Information Systems
ISI	Intelligence and Security Informatics
IT	Information Technology
LBS	Location-Based Services
MIT	Massachusetts Institute of Technology
OFPC	Office of the Federal Privacy Commissioner (Australia)
USA PATRIOT Act	Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism
PRC	People's Republic of China
PSL	Privacy, Security and Liberty
RF	Radio-Frequency
RFID	Radio-Frequency Identification
SARS	Severe Acute Respiratory Syndrome
SMS	Short Message Service
UK	United Kingdom
US	United States of America
WHO	World Health Organisation
WLAN	Wireless Local Area Network