

Thesis for Degree of Doctor of Philosophy

**Digital Identity: An Emergent Legal Concept**

**An analysis of the role and legal nature of digital identity in a transactional context**

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## Abstract

This thesis examines the emergent legal concept of digital identity under the United Kingdom National Identity Scheme ('NIS') and its Australian counterpart, the Access Card Scheme ('ACS') proposed in 2007. The *Identity Cards Act 2006* UK c 15 (*Identity Cards Act*) and the Human Services (Enhanced Service Delivery) Bill (Cth) 2007 ('Access Card Bill') reveal a remarkably similar concept of identity in terms of its constitution and especially its functions.

The United Kingdom scheme is currently being established, whereas the proposed Australian Scheme has been shelved following a change of government late in 2007. The NIS is therefore used as the model for this study but the analysis applies to any such scheme based on digital technology, including the ACS, should it be resurrected.

The emergent concept of digital identity which is the subject of this thesis arises from legislation. It is a legal construct which consists of a collection of information that is stored and transmitted in digital form, and which has specific functions under the identity scheme.

In this study, the information recorded about an individual for an identity scheme is referred to as an individual's 'database identity.' Database identity consists of information prescribed by legislation. Collectively, that information comprises an individual's registered identity. Under the United Kingdom scheme, it includes an individual's name/s, gender, date and place of birth and date of death, photograph, signature and biometrics, and other information such as citizenship and residential status including residential address/es, nationality, identity card number, passport number, work permit number, driver's licence number, and administrative information such as security and verification details.

Within database identity is a small subset of information which is an individual's transactional identity, that is, an individual's identity for transactional purposes. In this study, that subset of database identity is called an individual's 'token identity'. Under the NIS, token identity consists of name, gender, date and place of birth, date of death and biometrics. Token identity is the gateway to the other information which makes up database identity and token identity has specific functions at the time of a transaction which give it legal character. In effect, it operates as the individual's transactional 'key.' Presentation of the required token identity at the time of the transaction enables the system to recognise, and to deal with, the registered identity.

This thesis is therefore not about identity in the deep philosophical sense of 'who am I?' or 'what makes me, me?' It is about a legal concept of individual identity for specific purposes under a national identity scheme. In many ways, though, the concept of digital identity which is the subject of this thesis is just as important in a modern legal context. Under a national identity scheme, the response to the question 'who am I?' is 'you are who the scheme (and in particular, the National Identity Register ('NIR')) says you are.'

As the first conceptual legal analysis of identity in a transactional context, this thesis examines the functions and legal nature of database identity, and particularly token identity. Token identity has specific functions at the time of a transaction which are analysed from a legal perspective to determine whether token identity is a form of legal personality.

This thesis also contends that individual personal and proprietary rights necessarily apply as a result of the functions and legal nature of this emergent concept of identity. In addition to the

well- recognised right to privacy, this thesis argues that the concept gives rise to the right to identity which has been overlooked in this context.

For the first time, identity as a legal concept is distinguished from privacy which is the focus of legal scholarship and jurisprudence in this area. The right to identity is contrasted with the right to privacy and the protection afforded by the right to identity in this context by those human rights in the United Kingdom is considered. The protection afforded to an individual in the United Kingdom is contrasted with the situation in Australia which does not currently have a comprehensive national human rights charter.

In view of the limited protection which is currently provided to token identity by the civil law, the protection provided by the criminal law in both the United Kingdom and Australia becomes particularly significant in considering the obligations and rights which arise under the scheme. The adequacy of the criminal law in addressing the nature and consequences of the dishonest use by a person of another person's identity information is therefore also examined.

Identity theft is defined and distinguished from identity fraud, having regard to the emergent concept of digital identity and the wrong and the harm caused by its misuse. In particular, the nature of token identity is examined and the consequences of its misuse by another person are considered in determining whether token identity is property which is capable of being the subject of theft and criminal damage.

The thesis concludes by summarising the major insights provided by chapters 1-6 with a view to the future when national identity schemes like that of the United Kingdom, and indeed international schemes, will be commonplace and token identity routinely required for most commercial transactions. In that environment, being asked to provide one's token identity is likely to be as common and as routine as being asked one's name.

## **Declaration**

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution to Clare Linda Sullivan and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

I give consent to this copy of my thesis when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968. The author acknowledges that copyright of published works contained within this thesis, as listed in the Bibliography, resides with the copyright holder(s) of those works.

Clare Sullivan  
July 2009

## **Publications and Presentations**

### **Parts of this thesis have been published in the following peer reviewed articles and presentations**

Clare Sullivan, 'Digital Identity – The 'Legal Person'?' (2009) 25(2) *Computer Law and Security Law Review* page number yet to be assigned.

Clare Sullivan, 'Digital Identity – The 'Legal Person'?' paper accepted for presentation at the International Workshop in E – Forensics law at the International Conference on Forensics Applications and Techniques in Telecommunications, Information and Multimedia, Adelaide, Australia 19-21 January 2009.

Clare Sullivan, 'Is Identity Theft Really Theft?' (2009) 23(1-2) *International Review of Law, Computers and Technology* 85.

Clare Sullivan, 'Is Identity Theft Really Theft?' paper accepted for presentation at the 2007 British and Irish Law Education and Technology Association conference in the United Kingdom in April 2007.

Clare Sullivan, 'Identity or Privacy?' submitted on request for Special Issue: Identity, Privacy and New Technologies in (2008) 2(3) *International Journal of Intellectual Property Management* 289.

Clare Sullivan, 'Who's Who – Conceptualising Identity' (2007) 21(3) *International Review of Law, Computers and Technology* 327.

Clare Sullivan, 'Conceptualising Identity' paper accepted for presentation at the 2007 British and Irish Law Education and Technology Association conference in the United Kingdom in April 2007 and for publication as a *BILETA paper* on-line at [bileta2007.co.uk/papers](http://bileta2007.co.uk/papers).

Clare Sullivan, 'The United Kingdom Identity Cards Act – Civil or Criminal?' (2007) July *International Journal of Law and Information Technology* 1.

Clare Sullivan, 'The United Kingdom Identity Cards Act 2006 – Proving Identity?' (2006) 3 *Macquarie Journal of Business Law* 259.



## **Acknowledgment and Dedication**

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I thank God for giving me the opportunity to do this thesis and I thank God that it is finished!

Clare Sullivan  
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## Abbreviations/Terms and Definitions

Abbreviation/Term	Definition for this Thesis
ACR	Access Card Register i.e. the database/s to be used for the proposed Access Card Scheme
ACS	The Australian Access Card Scheme proposed under the Human Services (Enhanced Service Delivery) Bill 2007 (Cth)
Access Card	The ‘smart’ identity card to be used in the ACS
<i>Access Card Bill</i>	The Human Services (Enhanced Service Delivery) Bill 2007 (Cth)
BBC	British Broadcasting Corporation
biometrics	The fingerprints, face scan and iris scans proposed for the NIS and the face scan proposed for the ACS
Charter of Fundamental Rights of the European Union	Charter of Fundamental Rights of the European Union (Official Journal of the European Communities 2000/C 364/01) 18 December 2000
<i>Computer Misuse Act</i>	<i>Computer Misuse Act 1990</i> (UK) c 18
Convention on the Rights of the Child	The United Nations <i>Convention on the Rights of the Child</i> , opened for signature 20 November 1989 1558 UNTS 530 (entered in to force in the United Kingdom 15 January 1992) (entered into force in Australia 16 January 1991)
<i>Criminal Law Consolidation Act</i>	<i>Criminal Law Consolidation Act 1935</i> (SA)
<i>Criminal Code Act</i>	Criminal Code Act 1995 (Cth)
<i>Criminal Code</i>	The <i>Criminal Code</i> forming the Schedule to the <i>Criminal Code Act 1995</i> (Cth)
<i>Criminal Damage Act</i>	<i>Criminal Damage Act 1971</i> (UK) c 48
database identity	The prescribed information which constitutes an individual’s identity under an identity scheme. Database identity includes token identity which is an individual’s transactional identity under an identity scheme
database identity information	The individual components of the prescribed information which constitutes database identity, that is, the separate components, not the set which collectively constitutes database identity
<i>Data Protection Act</i>	<i>Data Protection Act 1998</i> (UK) c 29

<b>Abbreviation/Term</b>	<b>Definition for this Thesis</b>
<i>Data Protection Directive</i>	<i>Data Protection Directive 95/46 EU</i> of the European Parliament and of the European Council of 24 October 1995
DNA	Deoxyribonucleic acid
identity	An individual's identity composed of information which is stored and transmitted in digital form, with a particular focus on the NIS and ACS
<i>ECHR</i>	<i>European Convention for the Protection of Human Rights and Fundamental Freedoms</i> , opened for signature 4 November 1950) 213 UNTS 221, (entered into force 3 June 1952)
European Court	European Court of Human Rights
FBI	United States Federal Bureau of Investigation
<i>Fraud Act</i>	<i>Fraud Act 2006 (UK) c 35</i>
<i>Human Rights Act</i>	<i>Human Rights Act 1999 (UK) c 42</i>
identifying information	The identifying information as set out in Schedule 1 of the <i>Identity Cards Act</i> , that is, the individual's handwritten signature, head and shoulders photograph and biometrics which under the NIS are fingerprints, a face scan and iris prints
<i>ID card</i>	The identity card issued under the NIS
<i>Identity Cards Act</i>	<i>Identity Cards Act 2006 (UK) c 15</i>
Identity Cards Bill	Identity Cards Bill 2004(UK)
identity crime	Identity crime includes identity theft and identity fraud as defined in this thesis
identity fraud	Dishonest, false representation as to any registered database identity information including token identity information
identity register	Database or databases which constitute the identity register for the identity scheme and which contain the information which collectively comprises database identity including token identity
identity scheme	A scheme which requires an individual to establish his/her identity at the time of a transaction by providing information which matches the information digitally recorded in the identity register

Abbreviation/Term	Definition for this Thesis
identity theft	Dishonest misuse by a person of another person's registered token identity for a transaction
individual	A natural person. In this thesis individual includes both living and deceased natural persons
information	Information in this thesis includes 'data,' unless otherwise indicated
IAFIS	Integrated Automated Fingerprint Identification System
IPS	United Kingdom Identity and Passport Service
IT AIS	Integrated Automated Fingerprint Identification System
legal person	The being, entity or unit which bears legal rights and duties and so possesses what is called a legal personality
MCCOC	Model Criminal Code Officers' Committee of the Standing Committee of Attorneys- General
MCLOC	Model Criminal Law Officers' Committee of the Standing Committee of Attorneys- General
NIS	National Identity Scheme in the United Kingdom established under the <i>Identity Cards Act</i>
NIR	United Kingdom National Identity Register, that is, the databases which collectively comprise the identity register for the NIS
PIN	Personal Identification Number
privacy	Unless otherwise indicated, 'privacy' in this thesis includes data protection rights and duties arising under legislation such as the <i>Data Protection Act</i> and the <i>Data Protection Directive</i> and its equivalent in Australia, the <i>Privacy Act</i> ; as well as the rights and duties now recognised in the United Kingdom under recent developments in the law of confidence and which are developing in Australia under the tort of privacy
<i>Privacy Act</i>	<i>Privacy Act 1988 (Cth)</i>
registered identity	The identity as registered under the identity scheme. Registered identity is the individual's database identity including token identity as registered, that is, recorded, under the identity scheme

Abbreviation/Term	Definition for this Thesis
State government	Governments of the States and Territories of Australia, either collectively or individually as indicated by the context
the system	Operations for the identity scheme
<i>Theft Act</i>	<i>Theft Act 1968 (UK) c 60</i>
TIA	‘Total Information Awareness’ the fictional identity database featured in the BBC series <i>The Last Enemy</i>
token identity	The set of identity information which constitutes an individual’s transactional identity under an identity scheme. Token identity is a subset of the information which comprises an individual’s database identity under an identity scheme
token identity information	The individual components of the information which constitutes token identity, that is, the separate components, not the set which collectively constitutes token identity
token identity transaction	A transaction for which an individual is required to establish his or her identity by using his or her token identity
transaction	A dealing whether in-person (that is face to face) or using remote communication (such as a telephone, the internet or a computer network), for which an individual is required to establish his or her identity. A transaction may be between an individual and a government department or agency or with a private sector entity, and can range from an enquiry to a contract but does not include transactions and dealings of a non- business nature such as domestic and social interaction. When discussed in the context of legal relations such as in relation to the legal person, ‘transaction’ is a legal transaction such as a contract, for example
transactional identity	The identity which is verified under an identity scheme for a transaction. An individual’s transactional identity is his or her token identity as recorded in the identity register
United Kingdom	United Kingdom of Great Britain and Northern Ireland
United States	United States of America