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Usability of biometric systems

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Foreword

This Technical Reference (TR) was prepared by the Biometrics Technical Committee under the purview of the Information Technology Standards Committee. The committees comprise volunteers from universities, research institutions and the industry. As individuals, the volunteers are also biometric users, and as such, they brought the essential user perspective into the analysis as well. The goal of this document is to offer a set of guidelines to build and deploy safe, secure and acceptable biometric systems in Singapore.

In preparing this TR, reference was made to the following publications:

1. Biometrics for identification and authentication – Advice on production section (UK Biometrics Working Group)

2. Privacy and biometrics (Ontario Information and Privacy Commissioner)

3. ISO/IEC JTC1/SC37 N371, Australian Contribution to SC37 N320, Call for Technical Contributions on SC37 N309, Cross Jurisdictional and Societal Aspects of Implementations of Biometric Technology

Acknowledgement is made for the use of information from the above publications.

This TR is not to be regarded as a Singapore Standard. This TR is made available for provisional application over a period of two years, but does not have the status of a Singapore Standard. The aim is to use the experience gained to modify the TR so that it can be adopted as a Singapore Standard. Users of the TR are invited to comment on its technical content, ease of use and any ambiguities or anomalies. These comments can be submitted using the feedback form provided at the end of the TR and will be taken into account in the review of the publication. At the end of the two years, the TR will be reviewed by the WG to discuss the comments received and to determine its suitability as a Singapore Standard. Submission for approval by the Standards Council as a Singapore Standard will be carried out only upon agreement after review.

This TR is expected to be used by biometric equipment manufacturers and institutions considering biometric systems.

Attention is drawn to the possibility that some of the elements of this TR may be the subject of patent rights. SPRING Singapore shall not be held responsible for identifying any or all of such patent rights.

Technical Reference for usability of biometric systems

0 Introduction

The tragedy of September 11, 2001, in which terrorists used easily obtainable forged identification documents, drove home the need to have a more effective form of identity management into the minds of consumers and organisations alike. In addition, the rising rate of identity theft among consumers has created the need for a more secured identification mechanism. These events have also created an intensive interest in biometric systems.

Biometric systems have increasingly been considered as highly effective secure access systems, as evident from the growing number of biometric systems being deployed in Singapore. This does not necessarily translate to greater user acceptance of the systems. Biometric systems use a variety of physiological and behavioural traits of individuals for identification and verification. Usage of these systems may be perceived as complex and cumbersome to some of the users. Moreover, users are very much concerned about their personal physiological information being made available by unknown systems and hence the opportunities for abuse. One of the most important reasons why this TR is required is that biometric products rely heavily on the co-operation of the users. Users may fear technology, dislike the invasion of privacy, or simply not like the idea of self-scrutiny. There may even be cultural abhorrence to touching sensors. Thus, it is imperative that the usability issues be considered when deploying biometric systems, in order to mitigate the risk involved for the user as well as the vendor due to mismatched requirements.

1 Purpose

This TR is intended to be the reference document to which biometric systems should comply. It specifies generalised guidelines that biometric system providers should consider to implement safe, reliable and user-friendly biometric systems, as well as for users to be aware of the essential considerations when using biometric systems.

2 Scope

The scope of the TR covers:

a) an overview to potential new users of biometric systems and expectations of users (not performance based) (Clause 4);

b) factors affecting ease of use of biometric systems (Clause 5);

c) performance measures of biometric systems (Clause 6);

d) privacy of the biometric users (Clause 7);

e) overall system design (Clause 8);

f) legal aspects in deployment and use (Clause 9).