

# Preface

It seems almost bizarre to consider that contemporary biometric technology, which many still see as very advanced, even within the context of fast-moving Information Technology, has been with us for over 20 years. At first glance, it may seem to the casual observer that little has changed within that window of time. After all, we are still speaking of fingerprint readers, facial recognition, iris recognition and the other popular biometric techniques, and even their physical implementation does not seem to have changed all that much. However, behind the scenes, there have been many changes, some of them significant. Furthermore, these changes have not been restricted to the technology itself, but include changes of attitude, changes in the way the technology is deployed and changes in the context of our understanding of primary applications.

One aspect that has not perhaps changed as much as it might have done is the continuing focus upon the front end technology. Many technology suppliers, systems integrators, consultants and users still seem rather preoccupied with the front end devices and their theoretical performance. Attend any conference on the subject and you will surely encounter discussions upon matching algorithms, the physical design of biometric reader devices and theoretical performance. This is understandable, as it is mostly the device manufacturers who have driven the technology forwards, and theirs is a language of matching algorithms, equal error rates, degrees of freedom and other such parameters which serve to define the relative performance of one device in comparison with another. Consequently, systems integrators, consultants and even implementing organisations have largely adopted both the language and the focus upon biometric devices when considering applications for the technology.

It may be argued, with some justification perhaps, that the approach outlined above has served us well enough up until now. However, the world is changing fast, in terms of technology, business models, politics and even culture. It is time to consider biometric technology in a broader light. To integrate the concept more seamlessly into mainstream Information Technology while also striving to understand cultural attitudes and the societal impact of identity management as we progress into the twenty-first century. Make no mistake. This idea represents a step change in our thinking and many currently held tenets may come under a less than comfortable scrutiny in the process.

This book itself consequently represents something of a milestone in the development of biometric technology. It will be interesting to revisit it in another 20 years and align it with developments undertaken within that window of time. No doubt we shall have

retained much of the technical terminology, but it is likely that we shall be looking at a different implementation model, and perhaps a different understanding of the concept of biometric identity verification. In the chapters which follow, we shall embark upon a voyage of exploration and clarification, striving to develop a new and robust understanding of biometric technology and its application, to serve us in coming decades.

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