

Non-identity documents, Mirosław Owoc

Abstract Each new design of the Polish Identity Card has more security features than the previous one. Consequently it becomes practically "impossible to forge". Unfortunately, as a side-effect of document miniaturization, information that serves to verify identity of the bearer is reduced as compared to old versions. Placing of the document owner's fingerprint on the Identity Card would restore its function as an identification document and prevent numerous crimes.

New Technologies and developments in biometrics Mirosława Plucińska, Jan Ryżko

Abstract The current share of individual technologies in the biometric market and the changes which took place in this area in the last years are presented. Short characteristics of these technologies are given. Then various applications of biometrics are described and an attempt of a quantitative definition of their rank is undertaken on the basis of publications about them. At the end the dynamics of biometric market is shown together with the latest prognosis and its geographical distribution.

The Biometric Authentication Document, Łukasz Hoppe, Aleksander Maciejak, Leon Rozbicki

Abstract In this paper we present a system to service electronic documents, Person, which uses biometry. ICAO norms are then discussed, as well as methods of acquiring biometric data and of writing the data to the chip. We also raise the issue of data and transmission security.

Active Shape Models and Their Biometric Applications, Witold Malina, Maciej Smiatacz

Abstract Active Shape Models (ASM) were proposed in the last decade of the XX century as a versatile method of object localization and recognition. The theoretical concept on which the algorithm is based seems very attractive but the practical value of this technique still needs to be verified. The authors developed a multipurpose object locating system containing an implementation of the ASM algorithm and tested the method, paying special attention to its potential biometric applications, such as automatic face localization. The experiments performed with the help of the system revealed serious drawbacks of the method. The discovered practical problems related to the use of the ASMs in biometric systems are presented in the paper.

Robust fingerprint coding algorithm in application of biometric cryptography system, Andrzej W. Mitas, Dariusz Mostowski

Abstract In the paper the concept of the robust fingerprint coding algorithm to be used in biometric cryptography systems is presented. The developed algorithm is based on the alphanumeric fingerprint description method, applied to the coding region extending between Delta and Core point. The most developed branches of biometric cryptography are discussed with the emphasis placed on the biometric cryptography keys generation techniques. Due to the problem with localization of the singular points in poor quality fingerprint images with use of Poincaré index method, the new algorithm for improved localization of singularities based on 2D Force Field Transformation is proposed and the obtained results are presented.

Implementation and evaluation of authentication systems based on different biometric technologies, Adrian Kapczyński

Abstract In the article examples of implementation of biometric authentication systems were provided. The systems under analysis are based on the measurements of fingerprints, face geometry, iris, hand geometry, keyboard dynamics, signature dynamics and voice dynamics.

In the next part for each of the implemented systems its key characteristics were described. The analysis of quantitative parameters of enrollment and verification were provided as well.

Biometrical system of authentication realized on the basis of eye movement, Robert Brzeski, Józef Ober

Abstract This article provides the description and results of research aimed at improving the methodology of biometrical authentication realized on the basis of eye movement. The measurement of eye movement was performed by the system OBER2. To process and analyze gathered data algorithms based on artificial neural networks (ANN) were used. The research was conducted for about 10000 measurements of eye movement, gathered in the course of several months. Such a number of measurements allowed for the increase in the number of teaching vectors as well as considerably improving reliability of the results. The results that were obtained, as well as possible further avenues of investigation were introduced in article.

IDEF Methods Application to e-Business Modeling. The Current State, Andrzej Kaczmarczyk

Abstract In the paper current trends in business and e-business modeling, as well as the standards in use have been presented. Closer look at IDEF and UML exploitation is given, the problem of validation and verification of models is indicated.

eLearning in IMM – development, implementations, dissemination of knowledge and experiences, Olga Ordyńska

Abstract In early 90ties, the first Polish system for electronic knowledge examination called "EGZAMINATOR" was elaborated in the Institute of Mathematical Machines. It was an application that worked under the DOS operating system.

After a dozen years, at the beginning of the 21st century, IMM is offering a completely new, innovative e-learning technology - TeleEdu. The technology was awarded a silver medal at the International Innovations Exhibition INNOWACJE 2005 in Gdansk. TeleEdu technology is used in projects that are being realized by IMM in order to satisfy the need for constant vocational skills improvement in different groups of final beneficiaries. The technology is used also by public administration units. Experiences gathered from market implementation, and the competency achieved during research and development work, serve to disseminate knowledge about professional e-learning. One of the latest disseminating events was the 3rd eLearning Workshop (these workshops are organized by IMM annually in autumn). This time the Workshop was devoted to e-learning services.

Support for innovative technologies in the Mazovia region, Grzegorz Mazurkiewicz

Abstract The article presents the project of the Mazovian Centre for Knowledge Management in Innovative Technologies financed under the ESF ZPORR program. The author describes this project as an example of a good initiative, which supports development of new technologies in Poland as well as the transition to a knowledge-based economy. The author also emphasizes that Polish science needs similar initiatives to be able to compete within European Research Area.

Centralised algorithm of deadlock detection and removal in distributed simulation, Marek Kacprzak

Abstract In the paper principles of distributed simulation (with conservative synchronisation algorithm of nodes' clocks) of communicating objects paradigm are considered. A new centralised algorithm of deadlock detection and removal is described.