

SUMMARY

Myroshnychenko V.O., Krasnobryzhy I.V., Hrebenyuk A.M. The effectiveness of biometric technologies and features of their use in access control systems. Identification of a person is needed not only to search for antisocial elements, but also to optimize and simplify human life functions. The problem of identifying a person, especially in automatic and online mode, constantly requires finding the most effective software and hardware systems to solve this problem and finding the criteria by which the person will be identified. There are now many criteria by which a particular person can be identified, but identification by some criteria gives unacceptable errors. Therefore, the identification of a person by his/her biometric features must be performed in a comprehensive manner, or on the grounds that will give us acceptable results.

The article discusses the main directions of development of biometric technologies, in particular, methods of identification of a person by fingerprints, face geometry and iris. Attempts are being made to find the most effective biometric systems that actually exist in different countries of the world and are used in practice by various institutions and organizations, including law enforcement agencies. A comparison of these techniques based on FAR and FRR, according to which the most reliable is recognized by the iris of the eye. Other directions in recognition and identification systems are recognized as less reliable and it is preferable to use them in combination, for example, the use of recognition systems based on palm scans, papillary patterns and voice recognition systems; facial recognition systems and papillary line recognition systems; recognition systems for human gait and recognition systems for the face. It was concluded that recognition systems for human DNA are in the status of research and improvement (lack of efficiency in DNA analysis). It was determined that at a considerable distance identification is possible only by face geometry. The international experience of using such identification in video surveillance systems is considered. The features of the use of each biometric system are also considered on the basis of external factors, such as the number of simultaneously identified objects, the state of the external environment, and the capacity of information and telecommunications equipment.

New solutions for access control and management systems based on biometric technologies are easily integrated into existing infrastructure, have broad functionality, integrate hardware into a single facility security system.

Keywords: access control system, verification, PIN code, Proximity-cards, RFID, ID-cards, identification, biometrics, IP-cameras, webcams, GPUs, video stream.