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A COST EFFECTIVE BIOMETRIC FOR SECURITY APPLICATIONS USING INFRA-RED VEIN IMAGING WITH CONVENTIONAL COMPUTING PLATFORMS

Fact Sheet

Project Information

VEIN BIOMETRIC

Grant agreement ID: IN10217I

[Project website ⧉]

Funded under
Specific programme for the dissemination and exploitation of the results of activities in the field of research, technological development and demonstration, 1994-1998

Start date	End date

Total cost
No data

EU contribution
No data

Coordinated by
PRONOVUS - THE EAST MIDLANDS BUSINESS INNOVATION CENTRE
🇬🇧 United Kingdom

Objective

There is a world-wide demand from the security industry for a low-cost, reliable system which can be used to automatically identify people. Biometrics is seen as the way forward as it provides the ultimate level of security - the identification of people by their personal characteristics. There are several biometrics systems currently being developed which use fingerprints, voiceprints, facial characteristics, eye features or hand geometry. Yet none have so far been able to meet all the user requirements in terms of reliability, public acceptability and cost. Using fingerprints, for example, has criminal overtones and scanning the eye, although very accurate, is seen to be too intrusive.

The Vein Biometrics project is looking at a biometrics technology which has the potential to revolutionise the security industry. It is based on the recognition of people by the vein patterns in their hands. Infra-red light is used to create an image of the veins which can then be converted into a vector pattern or a string of numbers and stored on a computer or plastic card. This technology is much simpler and cheaper than other systems because the image capture is easier and the image processing avoids the need for complex pattern recognition. Another advantage is that vein patterns are unique, stable and virtually impossible to copy or damage. Checking veins also has no negative social connotations which would hinder its public acceptability.

The aim of the project is to validate this technology and prove it in practical applications. The potential applications are many, as the security industry covers everything from access to buildings, time and attendance recording, to the payment of State benefits and the use of credit cards.

The project initially focused on developing and testing prototypes for access control applications such as entry into premises and the securing of information on computers. The results were then evaluated in relation to more complex areas of application like the financial transactions market, supported by a comprehensive dissemination programme.

In developing the prototypes user requirements was assessed in relation to the following aspects: ease of use, the potential for circumvention, work and environmental factors, public acceptability and cost. These determined design issues covering such areas as ergonomics and speed of processing. The project also addressed the verification performance of the vein check system as its reliability in terms of correctly identifying people is fundamental to all potential users.

The ultimate goal is to encourage potential users to be confident enough in this biometrics system to introduce it into major commercial applications. Public backing by a large industry sector such as banking would open up a whole range of market opportunities across many industries and could establish vein checking as the

leading biometrics system. It is predicted that the European market for access control products alone will be worth $3.25 billion by 1997.

Fields of science (EuroSciVoc) ⓘ

natural sciences > computer and information sciences > computer security > **access control**

natural sciences > mathematics > pure mathematics > **geometry**

natural sciences > computer and information sciences > artificial intelligence > **pattern recognition**

social sciences > psychology > **ergonomics**

ⓘ

Keywords

Communications   Computer Applications   Development   Electronics

Hardware   Large Companies   SME   Universities

Programme(s)

FP4-INNOVATION - Specific programme for the dissemination and exploitation of the results of activities in the field of research, technological development and demonstration, 1994-1998

Topic(s)

1.3 - VALIDATION AND SPIN-OFF OF EARLIER COMMUNITY RTD RESULTS

1.7 - SMES INVOLVEMENT

Call for proposal

Data not available

Funding Scheme

Coordinator

PRONOVUS - THE EAST MIDLANDS BUSINESS INNOVATION CENTRE

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Total cost

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