

eINTERFACE 2005 Daily

Wednesday, July 27th

Biometric Identification -Be your own password-



Is Biometrics just a fashionable word, or does it become an important issue ? For Prof. Yannis Stylianou, the project leader #5, there is no doubt: biometry represents the future of personal identification. In order to be used by professionals like banks for example, an authentication system has to respect very strict constraints: it should have at most 1/100000 of False Rejection Rate (FRR) and 1/2000000 of False Acceptance Rate (FAR). Expert in speech processing, Prof. Stylianou, from the University of Crete, knows that these rates cannot be reached using speech information only.

The key issue consists in merging different decorrelated biometric-based modalities. The decorrelation is crucial to avoid to bring the same information and to add confusion... For example, combining lips motion and speech recognition is useless for a biometric-based identification system. The goal of research in progress is to reduce the identification error rate. The project #5 aims at testing the fusion of signature, speech and face features into a multimodal biometric authentication system. We started to hear about biometrics some years ago but without seeing any applications in daily life, except for very secure firms. Nevertheless, Prof. Stylianou is convinced that we are now witnessing an impressive acceleration of research in this domain. Prof. Stylianou predicts the arrival of biometrics in daily life from now to three or five years.

What about the "old" identification

systems like chips on credit cards or passwords on our computers ? Firstly, biometric-based technologies will appear and coexist with the other classical identification systems, and, gradually, they will totally replace them. Moreover, the classical identification systems need at least objects or personal information of the user while biometric-based authentication requires no specific information but the user himself.

In addition to the fact that biometric modalities must be decorrelated, Prof. Stylianou highlighted that they should be socially accepted as well. Among the features commonly measured are: face, fingerprints, hand geometry, handwriting, iris, retinal, vein, and voice. Speech, face expression or signatures are well accepted because they do not require specific constraints and common hardware such as microphones or webcams are sufficient to process them. Meanwhile, fingerprints are less well accepted because of their relationship with criminal affairs. Iris authentication needs more constraints and more sophisticated devices. Think also of Dan Brown's latest novel, *Angels & Demons*, where a group of terrorists do not hesitate to tear off someone's right eye and hand to fool an authentication system...

Finally, after this discussion on biometrics, Yannis Stylianou, in a less serious manner, gave us an interesting anecdote on another speech processing expert.

Actually, Yannis Stylianou was Thierry Dutoit's roommate in New Jersey when they both worked at AT&T Bell Labs. We learned that the eINTERFACE organizer was not the best driver ... One day, he had to wait 45 minutes to go from New Jersey to New York because of a huge traffic. When he finally arrived in New York, he turned left on the only road which goes back ... to New Jersey ! We can just hope that if GPS systems work with speech-based authentication, they could still recognize the anxious voice of Thierry in his car ;-)

Communication -eINTERFACE outside-

As all of you already know, a radio journalist made some interviews of eINTERFACE researchers. These interviews should be followed by others, to make a 7 minutes broadcast on eINTERFACE. It is also likely that a TV programme dealing with eINTERFACE will be shot on August 12th, where a special slot has been organized for press-oriented demos at 11h00.

We would want to thank all the participants who accepted to answer the interviews.

eINTERFACE Paranoia -The Killer Game-



Today strange rumors have been running through the Faculté Polytechnique's galleries : it seems that several murders are being prepared, and nobody knows exactly about them ! All we know, is that 48 victims should be killed in a few days ... but we have no idea about the weapons, neither the places where these facts should take place ! So, take care ... We also heard that there is not only one murderer : seemingly, these 48 victims should be killed by 48 different killers, all victims being themselves murderers, which introduces a frightening paranoia atmosphere between the 7 teams of the eINTERFACE workshop. Fortunately, according to our sources, this should end at the beginning of next week ... As suspense is one of the main points of our game, you will get more details on its rules in the next Daily News !

François Severin