24 July 2007 Issue 3

HUMABIO 3rd Newsletter

Human Monitoring and Authentication using Biodynamic Indicators and Behavioural Analysis

INSIDE THIS ISSUE:

EDITORIAL

We are pleased to issue the 3rd HUMABIO Newsletter describing the newest results of the project and highlighting its major related event, the 1st Pan-European Workshop that was held in Basel on February 2nd, 2007. We include in this newsletter the workshop's minutes at pages 2-6.

As for the project's ongoing activities, at page 7 you can find the Restricted Area Pilot description.

In addition a few interesting articles will keep you updated to the challenges that the project is dealing with. at page 8 the Biometrics and their respective Ethical Issues are discussed while at page 9 a public debate and the interesting user survey results are presented.

As usual we invite you to join the HUMABIO End User Forum at page 11 in order receive invitations to project's workshops and surveys.

Hoping that you will find our newsletter interesting we salute you until the next issue with more project's news!

When security meets Technology...

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1ST HUMABIO PAN-EUROPEAN WORKSHOP

BASEL, SWITZERLAND 2 FEBRUARY 2007

The 1st Pan-European Workshop of HUMABIO was held on Friday 2 of February 2007 at the premises of Psychiatrische Uniklinik Basel. It attracted public from European countries belonging to the scientific and higher education area.

The target of the workshop was to bring together all stakeholders in the area of the Biometrics and Security, to communicate its objectives and with all experts' assistance, to refine and finalise its application scenarios. The participants were invited to join the project's User Forum in order to create a community where HUMABIO concepts and developments were discussed, reviewed and updated.

The agenda included the presentation of the HUMABIO concept as well as the first outcomes of its research activities. Plenary and keynote presentations and a round table discussion with key stakeholders participation further enriched the workshop's programme which can be found below.

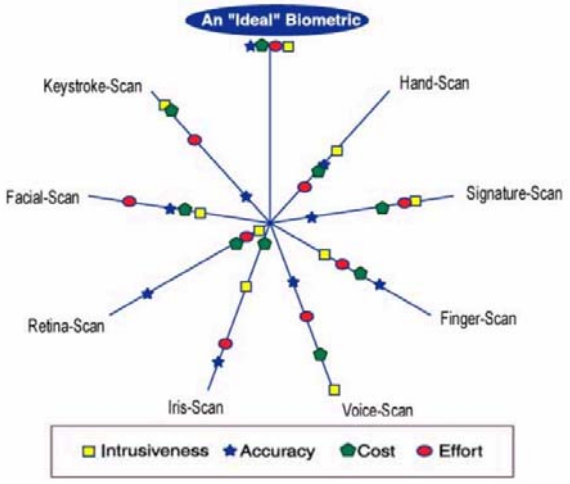
Pictures of the HUMABIO 1st Workshop

HUMABIO Pan-European Workshop		
Basel, Friday, February 2nd 2007		
Time	**Topic**	**Presenter**
09:00 – 10:00	**Registration and coffee**	
10:00 – 10:10	Welcome and order of the day	**COAT**
10:10 – 10:30	Security needs and biometrics market. The user's point of view.	Prof. Phil Blythe, **University of Newcastle**
10:30 – 10:45	EC policies in this area and relevant research in the 7th FP	EC (Project Officer)
10:45 – 11:00	HUMABIO concept and plan	Dimitrios Tzovaras, **CERTH/ITI**
11:00 – 11:30	**Coffee break**	
11:30 – 11:45	Preliminary HUMABIO Use Cases and application scenarios	Evangelos Bekiaris, **CERTH/HIT**
11:45 – 12:00	Potential of physiological signals for human authentication, validation and monitoring	Alain Muzet , **FORENAP**
12:00 – 12:15	Sensors, algorithms and technologies for behavioural and biometric profile creation and processing	Serge Boverie, **SIEMENS VDO**
12:15 – 12:45	Data protection and ethical issues	Laurent Beslay. **EU Data Protection Supervisor**
12:45 – 13:00	Questions and short discussion	
13:00 – 14:30	**Lunch Break**	
14:30 – 15:45	Round table discussion: Two main discussion themes: Legal/Ethical Scientific/Technical	Moderator: **CERTH**
15:45 – 16:00	Conclusions and closing	**CERTH**

An investigation of public attitudes to biometric-IDs on transport smartcards

Prof. Phil Blythe, University of Newcastle (presented by Marco Caparrini, Starlab)

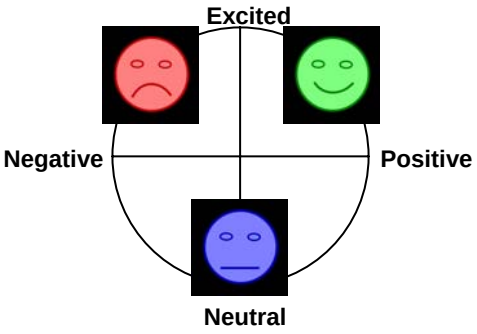
Mr. Caparrini of Starlab gave this presentation on behalf of Prof. Blythe. First he presented the TORG (Transport Operations Research Group), one of the major transport research institutes in the UK. Then he pointed out the increased need for transport security and its parameters, as well as the role that biometrics could play in this territory. More specifically, in what concerns transport applications, several application areas were identified and some examples given (ID card, fingerprint identification, retina scanning). Moreover, in order to investigate the public acceptability of biometrics related applications, a questionnaire survey has been undertaken ("Public Attitudes Questionnaire") whose results were presented. It was found that there is low awareness of smartcard related biometrics measurements, thus a preference to more familiar methods was stated, such as fingerprint identification. The main concerns about these applications are related to privacy issues, if the smart card data is gathered by the Government. One of the main outcomes of this survey was the need for further education and raising the public awareness on the need for such biometrics. Finally, it was stated that a new round of survey is about to be concluded; its target would be to identify whether attitudes have changed in the previous 18 months and whether there is now a greater general knowledge of biometrics and associated issues.

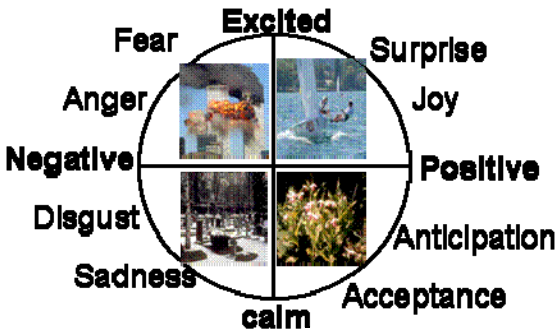


From thoughts to emotions: emotional state assessment using physiological recordings

Guillaume Chanel, Karim Ansari-Asl, Thierry Pun, Univ. of Geneva, Switzerland

Mr. Chanel of University of Geneva gave a presentation on the assessment of the emotional state of a person, using his/her physiological recordings (especially EEG recordings). The assessment is being performed using both the peripheral nervous system (GSR, blood pressure, respiration) as well as the central nervous system (EEG). The advantages of using both signals are that physiological signals cannot be easily faked and the fusion of modalities improves the results. The related applications would be: Behavior prediction in critical operations, Monitoring of critical states, Study of learning or working conditions, as well as Human-Computer Interaction. The procedure and the results were thoroughly presented. The outcomes were generally good, however more subjects would be needed to validate the current results, fusion of peripheral and EEG modalities is considered necessary, as well as synchronization between signals during emotions.





HUMABIO Concept and Plans

Dr. Dimitrios Tzovaras, CERTH/ITI, Project Coordinator

The HUMABIO coordinator, Dr. Tzovaras of CERTH/ITI, gave an overview presentation of the project. The objectives of HUMABIO were thoroughly presented, focusing on the modules to be produced and the pilot applications planned. Then the HUMABIO Consortium was presented, consisting of industrial partners, companies as well as research/academic centers. It was stressed that the activities of the project are aiming to security and safety enhancement over current biometric solutions, having as main concern their convenience and unobtrusiveness for the subject. Moreover, the HUMABIO biometric modalities were presented, including physiological as well as behavioral and other biometrics. Another important point was on the innovation that this project's foreseen products are providing, in terms of providing new biometrics from physiological signals, performing continuous authentication and monitoring (only for critical operations) through the exploitation of the new types of biometrics, examining and testing of multimodal biometrics authentication combined with validation of initial state procedure and monitoring of specific physiological patterns that may be hazardous during critical operations and finally exploring new levels of unobtrusiveness for the subject as well as developing prototypes that allow authentication "on the move". Finally, pictures from the presentation of HUMABIO during the 2006 IST event in Helsinki and contact information were displayed.

Preliminary HUMABIO use cases and scenarios of use

Dr. Evangelos Bekiaris, CERTH/HIT, Project Technical Manager

The HUMABIO Technical Manager, Dr. Bekiaris of CERTH/HIT, presented the preliminary HUMABIO Use Cases and scenarios of use. An extensive questionnaire survey, performed within the project, was presented, in which participated 300 users and 10 representatives of organisations that would be possible application areas for the HUMABIO products. Their acceptance and willingness to use and/or pay for such applications, as well as their awareness of biometric related safety and security measures, were investigated. The results of this survey were presented, to be finalised after the HUMABIO pilots' realisation, in order to be combined with the relative answers of the users after actually experiencing the systems. Moreover, the HUMABIO use cases definition procedure was presented, which follows specific methodology. After composing a detailed use cases template and deciding upon a use cases categorisation (6 categories), 25 use cases were defined, covering all HUMABIO application areas. The final scenarios of use will be decided during the pilot planning procedure. Additionally, detailed tables illustrating the HUMABIO applications per operation mode and application environment, used as basis for the use cases definition, were also presented.

Potential of physiological signals for human authentication, validation and monitoring

Prof. Alain Muzet, FORENAP

Prof. Muzet of FORENAP, presented the HUMABIO approach on using physiological signals for authentication, validation of initial state and monitoring applications. The physiological measurements that have been chosen for the HUMABIO applications are: EEG (electroencephalogram), ECG (electrocardiogram), EOG (electroculogram) and body sway. Several published works results' on EEG and EOG measurements were presented, as well as the parameters that seem to influence the related physiological features. Following, the recording protocols developed by Starlab and FORENAP for the HUMABIO purposes were presented and the experimental procedure thoroughly analyzed.

HUMABIO Workshop Minutes

Behavioral and other biometric profile creation

Dr. Serge Boverie, Siemens VDO

Dr. Boverie of Siemens VDO presented the procedures followed within HUMABIO for creating a behavioural and other biometric profile. The modules to be developed within HUMABIO were presented, their current state of development described, as well as the next steps to be realised for their completion. More specifically, within HUMABIO, the development of advanced face, speaker and gait recognition modules and an anthropometric authentication system based in seat sensors is foreseen, together with the creation of an unobtrusive and transparent to the user, non-stop authentication system deriving from the fusion of these modules.

Data protection and ethical issues

Laurent Beslay, European Data Protection Supervisor

Mr. Beslay of the EDPS accepted the HUMABIO Consortium invitation and attended the Workshop as an invited speaker, presenting the results of work performed within the EDPS concerning data protection and ethical issues. First he described the role of the EDPS as a body producing opinion on several activities on how and in what level data protection is respected, by means of supervision, consultation and cooperation. In this aspect, biometrics is viewed as a bridge between the physical person and his/her identity, which is mainly characterised by permanency, unity and certain physical characteristics. However, in the case of biometrics several issues arise, such as the error rate dimension, the provision of additional information, the diffusion effect as well as the interoperability. He also referred to some prerequisites, emphasising on the enrolment procedure, which is considered as critical and as having a serious impact on the results. Special attention should be paid to this task in order to make it clear and effective. Moreover, a political decision is expected in terms of the level of accuracy and the FRR (False Rejection Rate) that should be accepted. Another very important issue is the fallback procedure, i.e. the management of people that were rejected by the system. Regarding the best available techniques, he gave a reference on the EU IPPC bureau, directive 96/61/EC.

As expected, this sensitive issue raised discussion from the audience. Regarding error rates, Mr. Beslay explained that they consist no reason for rejection, they are just indicating the level of security needed to be applied. Dr. Tzovaras asked how HUMABIO could use the consultancy services of EDPS. Mr. Beslay answered that the procedures and involved applications should be described and all required information provided and then there could be a consultation of the personal data safety and respect provided by the HUMABIO procedures. What is being checked is, mainly, whether only the necessary information is being gathered or more. Apart from that, recommendations are provided after performing relevant analysis, of which technical recommendations are provided only in general terms. Finally, relevant standards could be suggested for consultation.

EUROPEAN DATA PROTECTION SUPERVISOR

HUMABIO Workshop Minutes

Round table discussion

The round table discussion session started with a question of Mr. Delahaye of COAT on ethical issues and more specifically on the sensitivity of the data collected in biometrics measurements, especially in the case where there could be a misunderstanding that also medical data is being kept (e.g. in the case of physiological measurements). Mr. Beslay of EDPS noted that the purpose for which data is being collected and stored should be clearly mentioned in the implementation plans. The user should in any case be informed that his/her sensitive (medical) data is not being recorded. Especially evaluation is a very sensitive subject in data protection, most notably in working environments. If the system is "live", i.e. no recording involved, it is more acceptable by the users, since the way log-files are being treated after recording is a very crucial issue. What is most important is to always clearly define the purpose of the system. Prof. Muzet noted that people working in critical processes want to know if they are able to perform or not.

Dr. Tzovaras asked why the biometric (physiological) data is considered more sensitive than e.g. face data (photo), and has to be stored in a template. Mr. Beslay answered that a template includes someone's personal data and it is more adequate in terms of collected data minimisation which is the target. So if the physiological data is minimised it is does not differ much from face. Prof. Muzet added that raw data is not stored; only features e.g. in the validation of initial state procedure, if the person is OK, no data is being stored, but if some problem is identified, it should be investigated what is going wrong. In the case of monitoring on the other hand, there is no need to keep the recordings. Maybe some indicative features should be stored for a short time to check for possible mistakes in case of objection.

Mr. Delahaye of COAT asked whether it is preferred to store data in a central database or an RFID card (smart card). Mr. Beslay answered that this depends on the needs; in general the smart card is preferred and even more when matching is also performed on the smart card.

Mr Beslay, in his turn, asked how is HUMABIO dealing with persons that are difficult to enrol and with FRR. Dr. Tzovaras answered that having a large pool of biometrics should protect from this problem, since it is considered rather impossible that a person would fail to enrol to all of them. On this opportunity, Dr. Tzovaras asked what would be the acceptable numbers for FRR and FAR. Mr. Beslay commented that failure to enrol acceptable rates mainly depends on the population in question as well as on the type of application, e.g. for fingerprints, when manual workers are to enrol, high rates are expected. These limits should be decided depending on the criticality of the site (i.e. for a nuclear site it should be very strict). For the convenience of the system, usually a small RFF is decided, but this is always a political decision.

He also clarified that by the term "unobtrusiveness" it should not be meant that the user is not informed that they are authenticated (which, in fact is not the case for HUMABIO).

Dr. Tzovaras asked Mr. Beslay's opinion regarding whether a database should be installed on the truck pilot. He stated that this should probably be necessary; alternatively, wireless transmission to the company may be used. The problem could rise on the fact that having a centralised database would mean the need for more protection from violation. In any case, risk assessment should be performed.

A final question was posed by Dr. Damousis of CERTH/ITI who asked if it would be easier to fake a smart card or to hack a database. Mr. Beslay was not sure about this; he commented that a database would be more attractive since it would include a larger amount of data than a single smartcard. Generally, decentralised methods are more preferable because the harm from possible fraud is significantly lower.

Conclusions and closing

After the very interesting discussion, Dr. Tzovaras summarised the main points that were subject to the Workshop's presentations and discussion and thanked the audience for their attendance and active participation, which contributed in holding a successful 1st HUMABIO Workshop.

HUMABIO Workshop Minutes

DESCRIPTION OF THE RESTRICTED AREA PILOT

The system will be installed in a controlled area in Euroairport in Basel, Switzerland. The aim is to authenticate the identity of authorized employees that can move freely in the area. Depending on the acceptable obtrusiveness level the appropriate sensor setup will be utilized. Two possible obtrusiveness scenarios are considered depending on the required security level:

the totally unobtrusive scenario, which dictates that the employees will not carry any sensor on them, which in turn means that the physiological profile of the subject will not be available and

the partially obtrusive scenario in which wireless wearable sensors and the utilization of the physiological indicators will be included.

The operational setup is depicted in Fig. 1.

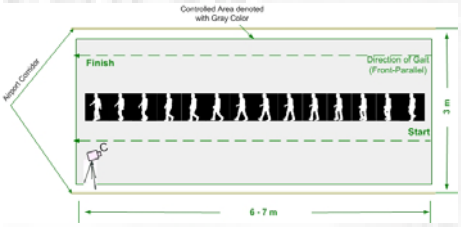


Fig.1: Unobtrusive authentication concept for the HUMABIO airport pilot.

- Pilot protocol

The subject will walk along a narrow corridor such as the ones that are usually found in airports. When the subject enters the corridor his (claimed) identity is transmitted wirelessly to the system via an RFID tag. The aim of HUMABIO is to authenticate the claimed identity by the time the subject reaches the end of the corridor.

The corridor's length should be 6 to 7 meters to allow the capturing of sufficient gait information. As the subject walks in the corridor his gait features are captured by a stereoscopic camera and in addition the subject's height is estimated. Height estimation with this method is quite accurate and deviates from the real height by 1cm maximum.

Height information is used to calibrate the position of the face recognition camera as is shown in Fig.2. Face recognition takes place at the end of the corridor. By the time the subject reaches the camera, its position is already calibrated allowing the unobtrusive face recognition without the need of specific procedures for the collection of the biometric data as is usually the case with current biometric solutions.

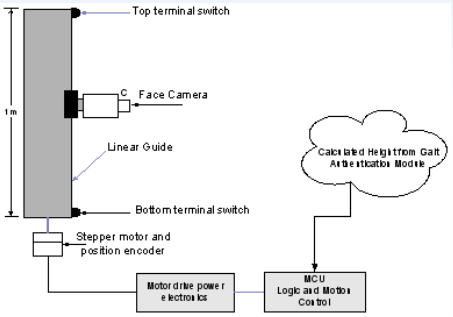


Fig.2: Calibration of face recognition camera position based on subject's height information.

Depending on the required security level more modalities may be utilized to decrease FAR:

The HUMABIO voice recognition module can function in parallel with face recognition. The microphone will be installed at the end of the corridor where face recognition camera is located. The subject will have to pronounce a specific sentence or even talk freely for some seconds, since HUMABIO voice recognition modules are able to handle both dictated and free speech.

Physiological signals, namely EEG and ECG will also be studied for their application potential in this pilot. Preliminary results show that even though EEG using just two electrodes may yield good authentication rates, this is possible only when a specific procedure is followed so as to avoid the occurrence of artefacts that pollute the necessary for authentication features. These artefacts are caused by muscle activity such as eyelid and eye movements, walking, head movement etc. On the other hand ECG shows robustness to artefacts and can be acquired by using just one electrode. ECG's authentication accuracy is comparable to EEG's and more robust due to less interference from muscle activity.

- Sensors

The sensors that will be used in the first scenario are: RFID tags, a stereoscopic camera for gait recognition and height estimation, a simple camera for face recognition and possibly a microphone. Since there will be no sensors attached to the subject the whole process will be transparent and totally unobtrusive.

The sensors that will be used in the second scenario are the ones in the previous scenario with the addition of minimally obtrusive wearable sensors and the Personal Data Processing Unit. The wearable sensors are electrodes based on the ENOBIO technology [20] that was developed within the SENSATION IP [13]. The ECG signal is then transmitted wirelessly to the

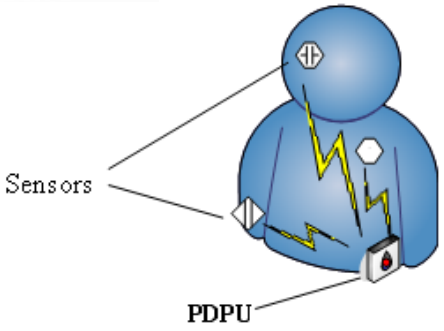


Fig.3: Indicative positioning of ENOBIO based electrodes and the supporting PDPU.

PDPU for processing and features extraction (Fig.3). The features are then transmitted to the HUMABIO system for matching with the corresponding templates. The availability of physiological measurements could potentially be used also for the assessment of the subjects' capacity to perform their task.

BIOMETRICS AND ETHICAL ISSUES

Biometrics evoke several social, legal and ethical concerns. The major fears and public concerns are about:

- centralization of biometric information
- the potential for misuse of these data
- the pervasiveness of a technology which many people do not understand
- the lack of transparency of the work
- third parties may have a strong interest in getting access to electronically recorded and stored personal health data
- the lack of adequate infrastructure in certain regions and the absence of computer literacy in certain sections of the population which may reinforce existing inequalities

Furthermore Biometric Data could reveal if a person is drinking, is taking drugs, is pregnant, is aged or not, is subject to emotions etc., therefore increasing the risks of discrimination.

The ethics code of conduct of research within HUMABIO consists of the following aspects:

- Informed consent: It is crucial to every study. It is part of the fundamental right of every participant to be fully aware of what has been asked to do. In a first step the participant is being asked to give informed consent to the specific experiment of HUMABIO. In a second step consent and research for storage and future research will be asked and documented separately. Both consents can be included in one form (containing both the information about HUMABIO related issues and the possibility of using the data for future research.

- Data security: The basic security requirements of HUMABIO system are not unlike the security requirements of other computing systems. The following requirements will guarantee that Privacy Issues will be handled with highest technical standards: Physical integrity, Logical integrity, Element integrity, Access control/User authentication, Availability, Auditability

- Anonymisation and Coding: Information should be anonymised so that individual identities can not be revealed. Anonymisation provides a safeguard against accidental or mischievous release of confidential information.

Within HUMABIO it has to be safeguarded that no medical information will be revealed neither during the developing phase of the products and especially nor in the application phase. Medical information (e.g. about vigilance and alcohol consumption) for the validation of the initial state and monitoring are deducted within the scope of HUMABIO.

Privacy and data protection - two separate fundamental rights

Protection of personal data is a right which is separate, but closely linked to the right to privacy:

Respect for private life was established in 1950 with the adoption of the European Convention of Human Rights - in the framework of the Council of Europe. Put in short terms, the right to privacy may be described as a right which prevents public authorities from measures which are privacy invasive, unless certain conditions have been met.

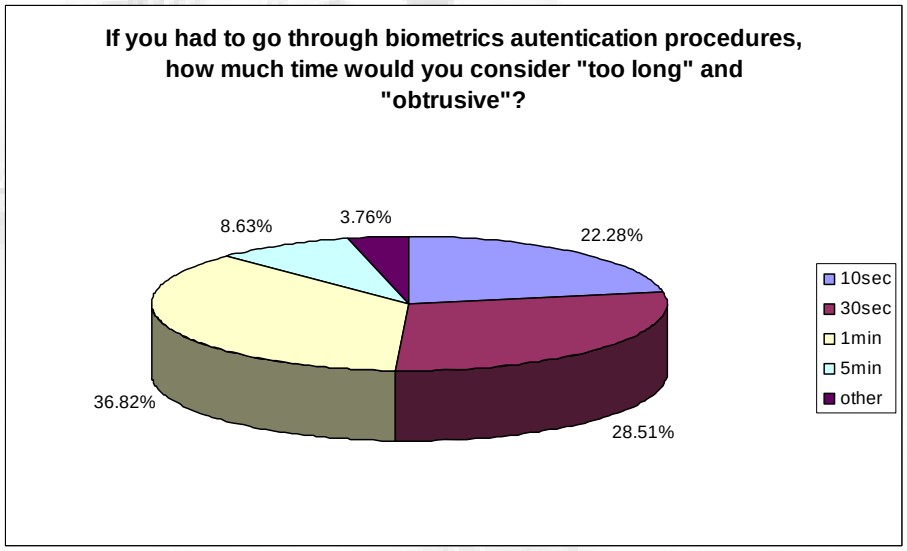
The right to data protection was introduced in the 1980s as a consequence of technical developments. Put in short terms, data protection principles aim to establish conditions under which it is legitimate and lawful to process personal data. Data protection legislation obliges those responsible to respect a set of rules and empowers the people concerned by granting them rights. Finally, it provides for supervision by independent authorities.

Privacy: power to control what others can come to know about you

HUMABIO PUBLIC DEBATE

Within HUMABIO, Task 1.1, a user survey was conducted aiming to to assess the public opinion about the systems that are going to be developed within HUMABIO. What is important for the HUMABIO project is both the opinion of the actual end users as well as this of the representatives of the organisations that are, intend to or should be using authentication, validation and monitoring systems.

In total, 293 User Acceptance and 30 Organisation Representative Questionnaires were collected from 6 countries (France, Germany, Greece, Italy, Sweden and Switzerland).



The main conclusions that are extracted from the above questionnaires' analysis, can be summarized in the following points.

User Acceptance Questionnaires

The main points resulting from the analysis of the User Acceptance questionnaires are:

✦ Currently, almost 80% of the survey participants are undergoing a security check in their work, among which 8.4% are subject to biometrics measurements (fingerprint or voice recognition).

✦ As far as the participants' acceptance concerning the measurement of different biometrics, voice recognition was the mostly accepted procedure (94.12%), followed by face recognition (88.76%), gait recognition (82.65%), sensing seat related anthropometrics (80.37%) and, finally, measurement of physiological signals (60.77%).

✦ The main reasons that were reported for rejecting the various biometric measurements were loss of privacy, lack of necessity, lack of reliability, obtrusiveness and hindrance.

✦ Concerning the risks that the HUMABIO system may have, 29.74% of the participants consider that there might be security risks, while 52.44% believe that personal data security risks may exist.

✦ The maximum accepted duration for the authentication procedures is considered to be 1 min (however related to only the static check/queuing time).

17.84% of the survey participants are involved in critical operations at work. Among them, 61.62% would accept to go through a validation of initial state procedure of not considerably higher than 1 min duration, 14.22% would accept to have an electrode based sensor attached on them while working, 38.52% are currently wearing or would accept to wear a special uniform and, finally, 84.27 % would accept to be monitored while working for security and safety reasons.

Organisation Representative Questionnaires

The main conclusions resulting from the questionnaires answered by the Organisation Representatives are:

Current situation – Authentication

o Currently, 62.5% of the represented organisations are performing authentication procedures to the whole of their personnel for safety and security reasons. In 40% of the cases this is performed with the use of security cards, while in 40% with personal identification by authorized personnel.

o The duration of this procedure is max 1 min in 70% of the cases, of which static control lasts up to 10 sec (80%).

o Biometrics (fingerprint) is used in 20% of the cases.

o Problems with the security level that are encountered are mainly caused by malfunctions of the system due to external parameters.

In 80% of the cases cost problems are encountered, regarding the installation and maintenance costs of authentication systems.

Current situation – Validation of Initial State

No organisation stated to currently validate the initial state of their employees in a systematic manner.

Current situation – Monitoring

HUMABIO PUBLIC DEBATE (CONT)

o Monitoring procedures are applied in 67% of the represented organisations. Video surveillance is the most usual means for monitoring (83%), followed by monitoring performed by a supervisor (17%).

o None of the organisations is using biometrics for monitoring procedures.

No problems were reported regarding the security level, costs or time.

HUMABIO metrics acceptance - Authentication

o Regarding the acceptance of the different biometrics included in the HUMABIO system, face, gait and voice recognition were accepted by 80% of the participants, while physiological signals' measurements only by 30%.

o The reasons that were reported for not accepting the different biometric measurements were obtrusiveness, time loss, lack of necessity and potential complaints by the employees.

o The accepted duration of the authentication procedure would be less than 10sec for 50% of the participants, up to 30sec for 40% of the participants, while static measurement –if applied- should last for no more than 30sec (90%).

o Only in 22% of the participating organisations there exists a long corridor leading to the workplace, which could be used for biometric signals to be monitored. Among the rest, in 33.2% of the cases such a feature could be added.

o 70% of the participants would buy such a system. Willingness to pay for purchase varies from 5000€ to 80000€, while for maintenance per annum, from 500€ to 1200€.

44% of the participants consider the HUMABIO system as possibly having security related risks, 56% consider it as possibly having personal data security related risks.

HUMABIO metrics acceptance - Validation of Initial State

o 55.56% of the participants consider the Validation of Initial State procedure as essential or helpful for their organisation (although currently not performed, mainly due to lack of an appropriate system).

o The biometrics that would be accepted to be monitored are voice recognition (87.5%), face recognition (77.78%), gait recognition (77.78%) and finally, physiological signals (44.44%).

Reasons for not accepting one or more of these biometrics were hindrance and redundancy.

HUMABIO metrics acceptance - Monitoring

o Monitoring procedure was assessed as essential or helpful for 38% of the represented organisations.

o The acceptance levels of each of the featured biometrics were 60% for voice, 50% for face recognition and 33 % for gait recognition and physiological signals.

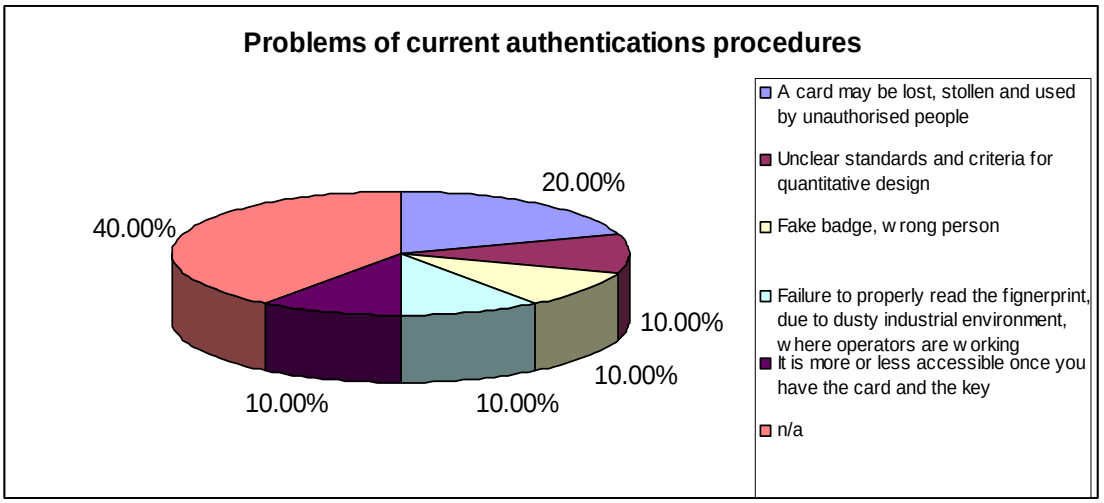
Reported reasons for not accepting one or more of the biometrics were lack of necessity, time loss and redundancy.

Additional security procedures

o Critical operations are performed in 87.5% of the participating organisations, in which the additional security procedures applied is mainly visual monitoring.

o All the represented organisations have a policy for the protection of employees' personal data and privacy.

Most of the participants (75%) stated that they are aware of applications where biometrics are or could be used, involving mainly access control applications, especially in airport areas.



HUMABIO END USER FORUM

Join now the HUMABIO END USER FORUM and:

- ✓ Regularly receive the HUMABIO Newsletter
- ✓ Receive invitations for project events, workshops etc
- ✓ Provide feedback on the project's activities by filling in questionnaires etc.

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Type of organisation	
Expert fields ***(please specify)***	

In case you are interested to participate please return this form to:

Lila Gaitanidou
CERTH/HIT
Fax: +30 2310 498 269
Email: lgait@certh.gr

Thank you for your support!

Note:

- *All interested people are welcome to the forum.*
- *All data will be kept confidential and will be used only for the purposes described above.*
- *The members participation to any of the HUMABIO activities is strictly on voluntarily basis.*
- *You can unsubscribe from the forum by a simple e-mail to the address above at any time you may wish.*

www.humabio-eu.org

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