

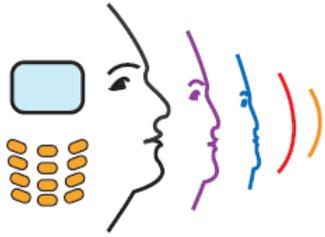
# MOBIO @ UOULU:

## Activity Overview, Planning and Publications

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University of Oulu, Finland

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# 1. Progress Status @ UOULU

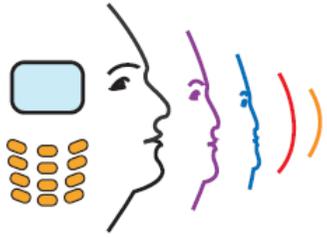


## • Activity Overview

- MOBIO database recording (WP2)
- Two baseline face detection systems (D3.2, WP3)
- Text for MOBIO reports (D3.2, WP3)
- Reviewing/commenting some MOBIO deliverables (WP3, WP6 etc.)
- Research on face description and illumination normalization (WP3, WP4)

e.g. Holappa J, Ahonen T & Pietikäinen M (2008) An optimized illumination normalization method for face recognition. Proc. IEEE Second International Conference on Biometrics: Theory, Applications and Systems (BTAS 08), Washington DC.

- Arranging/attending MOBIO meetings
- Etc.



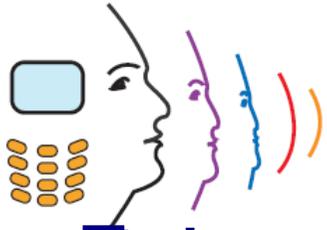
# 1. Progress Status @ UOULU



## • Publications

- [1] Ahonen T, Rahtu E, Ojansivu V & Heikkilä J (2008) Recognition of blurred faces using local phase quantization. ICPR 2008.
- [2] Holappa J, Ahonen T & Pietikäinen M (2008) An optimized illumination normalization method for face recognition. Proc. IEEE Second International Conference on Biometrics: Theory, Applications and Systems (BTAS 08), Washington DC.
- [3] Ahonen T & Pietikäinen M (2009) Pixelwise local binary pattern models of faces using kernel density estimation. Proc. 3<sup>rd</sup> IAPR/IEEE International Conference on Biometrics (ICB 2009). Accepted.
- [4] Hadid A (2008) The local binary pattern approach and its applications to face analysis. IEEE Proc. International Workshops on Image Processing Theory, Tools & Applications, Sousse, Tunisia, 28-36 (tutorial presentation).
- [5] Hadid A & Pietikäinen M (2008) Combining Appearance and Motion for Face and Gender Recognition From Videos, Pattern Recognition Journal (Submitted)
- [6] Ahonen T, Matas J, He C & Pietikäinen M. Rotation Invariant image description with local binary pattern histogram fourier features. Scandinavian Conferences on Image Analysis (SCIA2009), Submitted.

**Note: We should check if all publications do include acknowledgements to MOBIO.**

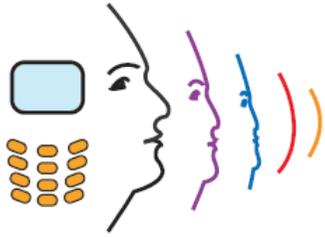


# 1. Progress Status @ UOULU



## • Future Work

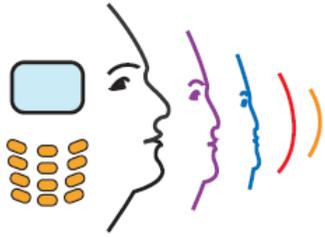
- Continuing MOBIO recording (WP2)
- Research on advanced face localization systems (WP3)
  - Extending and optimizing LBP+SVM face detector?
    - Using more training samples
    - Finding optimal parameters
    - Considering MOBIO specificities/constraints
  - Investigating new face detectors?
    - New feature sets (e.g. Weber Law @ CVPR 2008?)
    - New detection schemes
    - New learning methods
  - LBP + AdaBoost?
- Scalable face detector (WP5)?
  - Address the scalability of the advanced or baseline systems?
  - Perhaps this part should be postponed?
- Cooperation with UNIS on face recognition and model adaption during and after the planned visit of Dr. Chan @ UOULU (WP4)
- Collecting advanced uni-modal systems (D3.3@m18, WP3 )
- Evaluations and report on Advanced uni-modal systems (D3.4@m22, WP3)



## 2. WP4 Planning



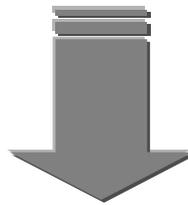
- Cooperation with UNIS on face recognition and model adaption during and after the planned visit of Dr. Chan @ UOULU.
- Investigation of advanced model adaptation systems (@ later stages of WP4 )
- Publications
- lip readings? We have experience on lip reading and visual speech analysis but .. we do not have any share in MOBIO for that. So, UOULU will not investigate that.
- UOULU has only 5PMs in WP4
- No responsibility of delivering any system in WP4
- UOULU is open to other propositions



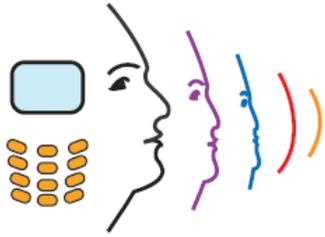
## 3. WP3 Planning



- **D3.3 @ m18**: Advanced Systems for uni-modal authentication
- **D3.4 @ m22**: Report on the description and evaluation of the advanced systems



Who does **what** and **when**?



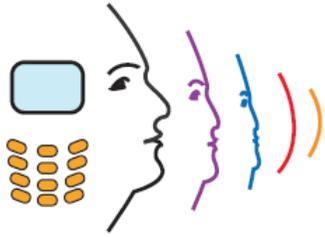
## 3. WP3 Planning



**D3.3 @ m18:** Advanced Systems for uni-modal authentication

- Each partner should prepare its advanced system(s) as follows:
  - FD: IDIAP & UOULU
  - FL: UMAN
  - FV: UNIS & IDIAP
  - VAD: UAPV & BUT
  - SV: UAPV & BUT

→ UOULU will collect and check the systems by m18



## 3. WP3 Planning



### D3.3 @ m18: Advanced Systems for uni-modal authentication

FD @ IDIAP Boosted Haar-LBP @m18

FD @ UOULU Weber Law system @ m18?

FL @ UMAN Improved FL @ m18

FV @ UNIS LBP based system @ m18

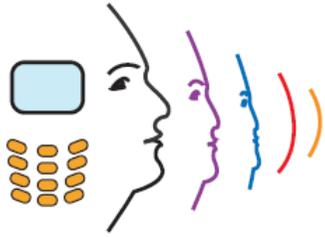
FV @ IDIAP GMM subband @ m18

VAD @ UAPV same as baselines

VAD @ BUT same as baselines

SV @ UAPV Noise robust FA Adaptation Approach @18

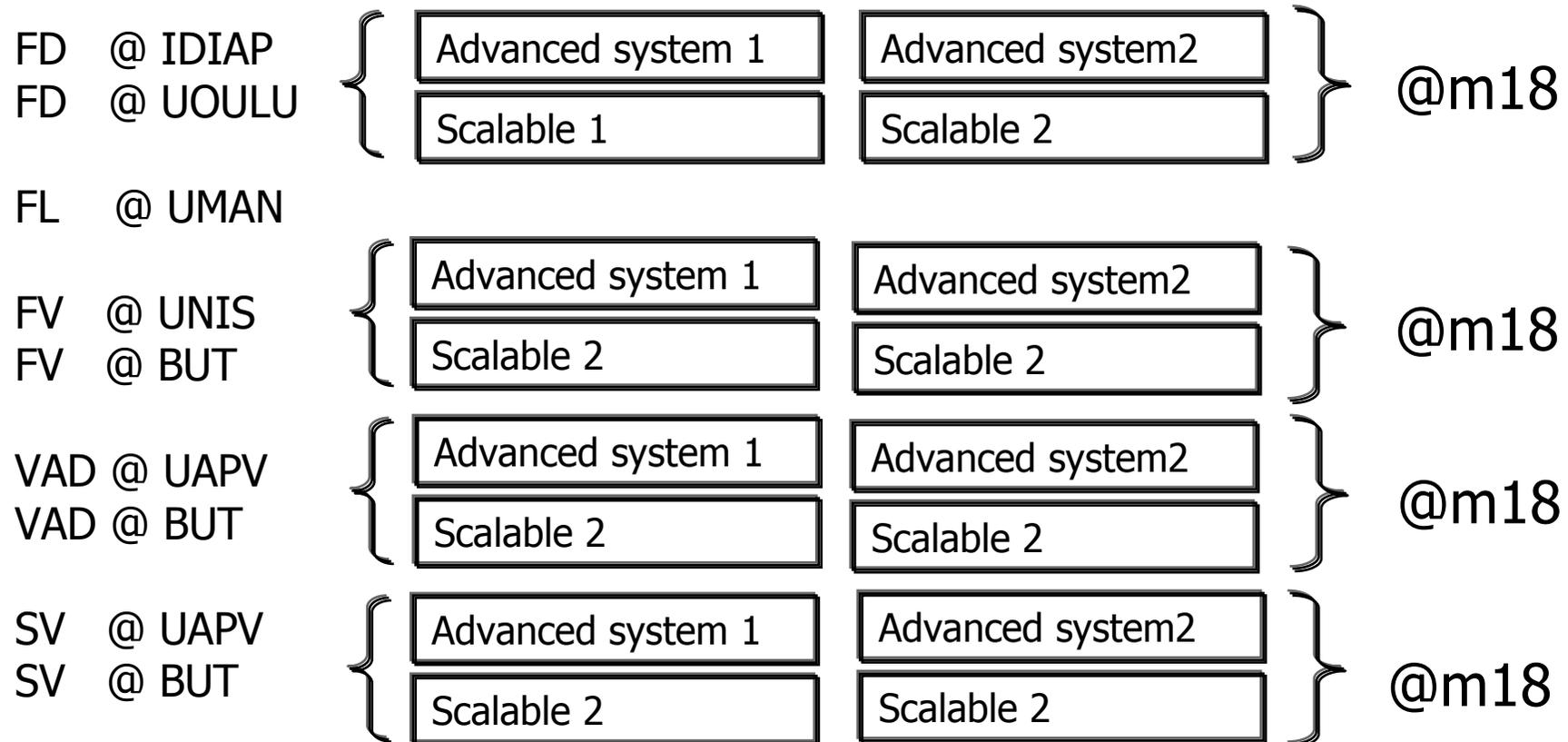
SV @ BUT Eigen Voices-Eigen channels based system @18



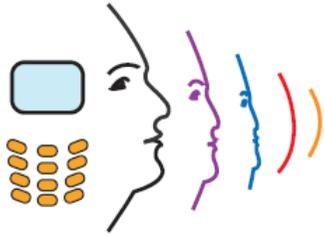
## 3. WP3 Planning



### D3.3 @ m18: Advanced Systems for uni-modal authentication



**Note: is it worth to develop double systems? Why not concentrating efforts between partners to come up with one system for each task?**



## 3. WP3 Planning



### ▪ D3.4 @ m22: Report on the description and evaluation of the advanced systems

#### ▪ Evaluations:

- ...in the same way as for D3.2 (databases and performance measures)  
→ ..in order to evaluate performance enhancements over baselines systems

- In addition, partners should also report the results on some MOBIO data?
  - When, how and who will do MOBIO database annotation?
  - Protocol?

- Each partner will have to submit (commit) its results to SVN
- Each partner will have to provide a short description of the advanced system

- UOULU will consolidate the report D3.4 by m22

- We may consider D3.4 for publication along with MOBIO Database V1.
  - MOBIO DB V1 : Uni-modal Systems, Still images + Voice
  - MOBIO DB V2 : Multimodal for later...