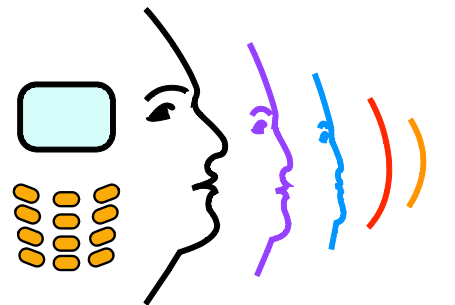


BUT input for technical meeting

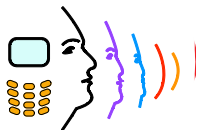
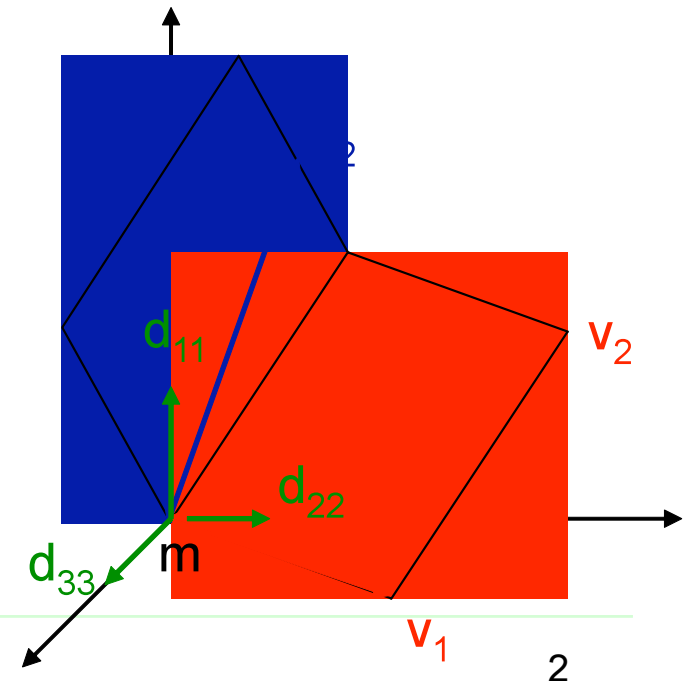
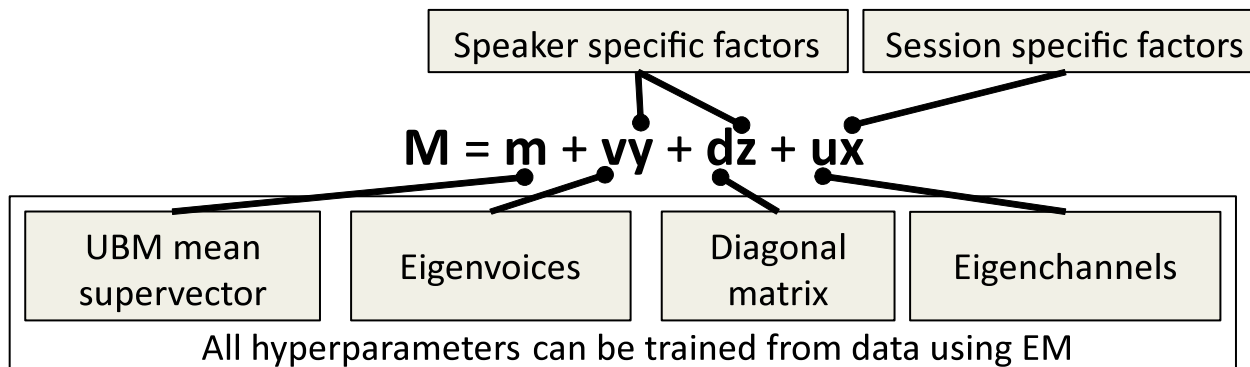
Pavel Matějka, Ondřej Glembek and Honza Černocký

MOBIO meeting, Renens, September 16-17 2009



Advanced system – D3.3

- Full JFA system including speaker-factors.
- Residual diagonal matrix **D** is trained on data
- Need of zt-norm for proper functionality of the system (to get most of JFA).



Experiments on BANCA

- System was completely trained on data for NIST 2008 (see our system description for details).
- Zt-norm speakers were taken from BANCA (G1 speakers for scoring G2 and vice versa).

| G1 | G2 |
|------|------|
| 3.65 | 4.93 |

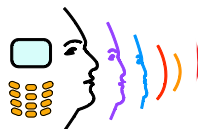


BANCA - discussion

- Experiments on NIST 2006 task show that ZT-norm cohort size matters
- Gender-dependent ZT-norm

| N | EER | EER-meanzt |
|-------|-------|------------|
| ===== | | |
| none | 5.53 | |
| ----- | | |
| 005 | 13.04 | 7.29 |
| 010 | 8.80 | 6.93 |
| 015 | 6.76 | 6.60 |
| 020 | 5.50 | 6.24 |
| 030 | 4.26 | 5.97 |
| 040 | 3.97 | 5.88 |
| 050 | 3.77 | 5.81 |
| 070 | 3.40 | 5.81 |
| 100 | 3.11 | 5.74 |
| 150 | 3.03 | 5.67 |

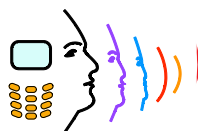
N ... # of speakers per gender
and normalization cohort
(real number for experiment
is $N * 4$)

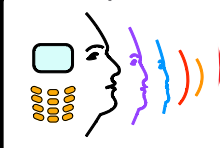


BANCA - discussion

- In BANCA, we have 26 speakers per subset, i.e. $N = 6$
- This is not enough, in NIST it is at least 100.

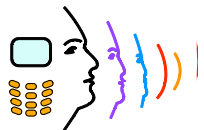
| | G1 | G2 |
|--------------|-----------|-----------|
| NO ZT-norm | 6.61 | 7.49 |
| ZT-norm | 7.10 | 5.33 |
| Mean ZT-norm | 3.65 | 4.93 |





D6.3 – BUT biometric modules

- After agreement with LIA, BUT was the main responsible site for the integration.
- Helped by LIA [Chris Levy and Anthony Larcher] during “BUT integration” week in June – thanks a lot !
- System is now integrated and (after some bug hunting) fully functional – thanks Carlos Bandeirinha a lot !



D6.3 – what is in

- GMM-UBM based system with channel compensation (our baseline system)
- 2048 Gaussians, 50 eigenchannels
- Results on BANCA (EER[%])
- Implemented using BS-CORE library produced by Phonexia (BUT spin off) in cooperation with BUT

| G1 | G2 |
|------|------|
| 7.2% | 5.3% |

