RESPITE workshop

Jan.25–27 2001

Martigny

Experiments on different feature sets; comparison with DC baseline system

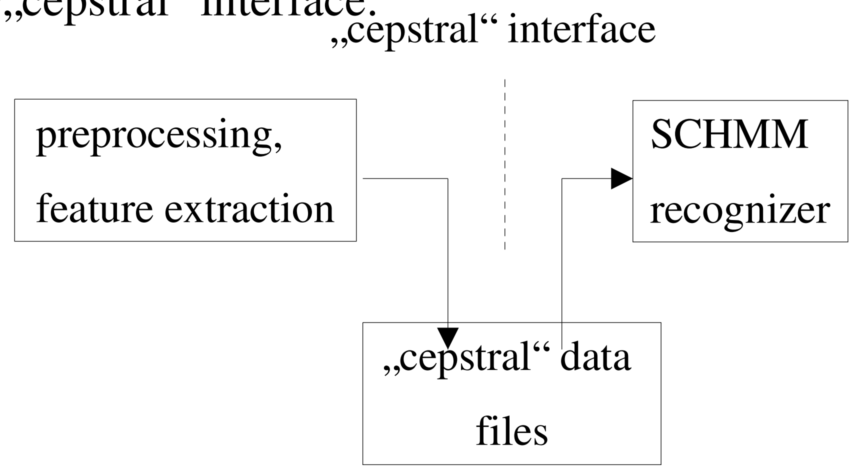
Joan Mari Hilario

Fritz Class

Experiments on AURORA 2000 database:

Features of DC baseline system:

- training on N1 ... N4 sets (multi–condition training)
- NSPS (nonlinear spectral subtraction)
- VTN (vocaltract length normalization)
- MFCC features with cepstral mean normalization
- „cepstral“ interface:



RESPITE workshop

Jan.25–27 2001

Martigny

Experiments on different feature sets; comparison with DC baseline system

Joan Mari Hilario

Fritz Class

Comparison DC–baseline / ICSI–Tandem features

% WER

	average N1 ... N4 test sets			
	clean	SNR 20	SNR 10	SNR 0
DC baseline without LDA	1.6	2.2	7.9	37.1
DC baseline with LDA	1.6	1.8	6.6	31.9
ICSI Tandem feat. 12 plp–dd+msg; without LDA	0.9	0.8	2.4	21.4
ICSI Tandem feat. 12 plp–dd+msg; with LDA	1.1	1.1	2.6	21.3

RESPITE workshop

Jan.25–27 2001

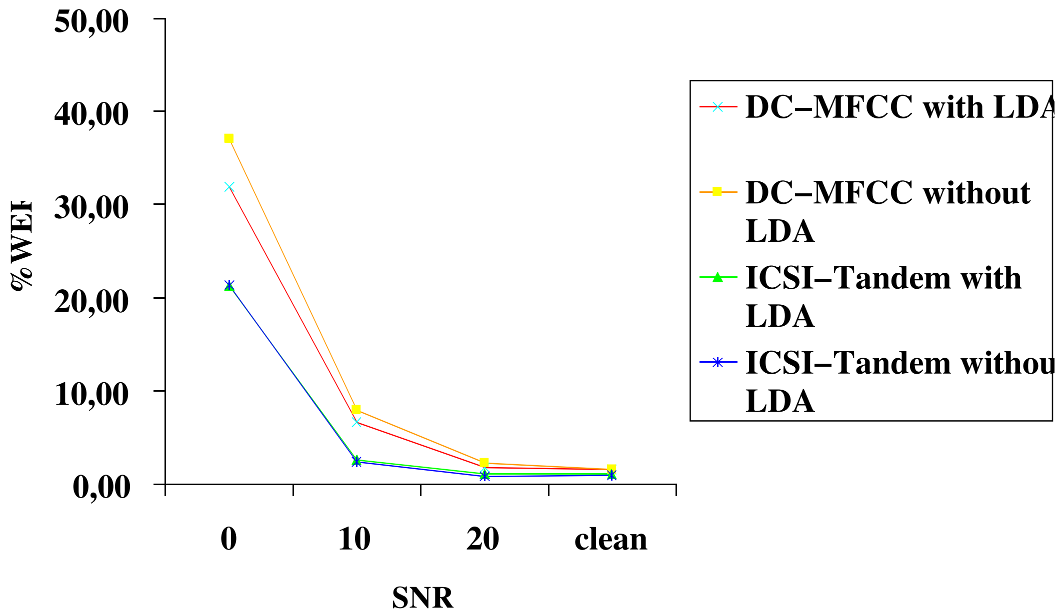
Martigny

Experiments on different feature sets; comparison with DC baseline system

Joan Mari Hilario

Fritz Class

Comparison DC–baseline / ICSI–Tandem features



RESPITE workshop

Jan.25–27 2001

Martigny

Experiments on different feature sets; comparison with DC baseline system

Joan Mari Hilario

Fritz Class

Comparison DC–baseline / FPM's

•FPM's: word models trained on **clean** speech

•DC: word models multi–condition training

% WER

	average N1 ... N4 test sets			
	clean	**SNR20**	**SNR10**	**SNR0**
FPM's log-RASTA	1.0	3.8	21.6	72.7
FPM's J-RASTA	1.3	3.1	13.2	55.8
FPM's with DC-models	1.2	2.2	11.8	55.1
DC baseline	1.6	1.8	6.6	31.9

RESPITE workshop

Jan.25–27 2001

Martigny

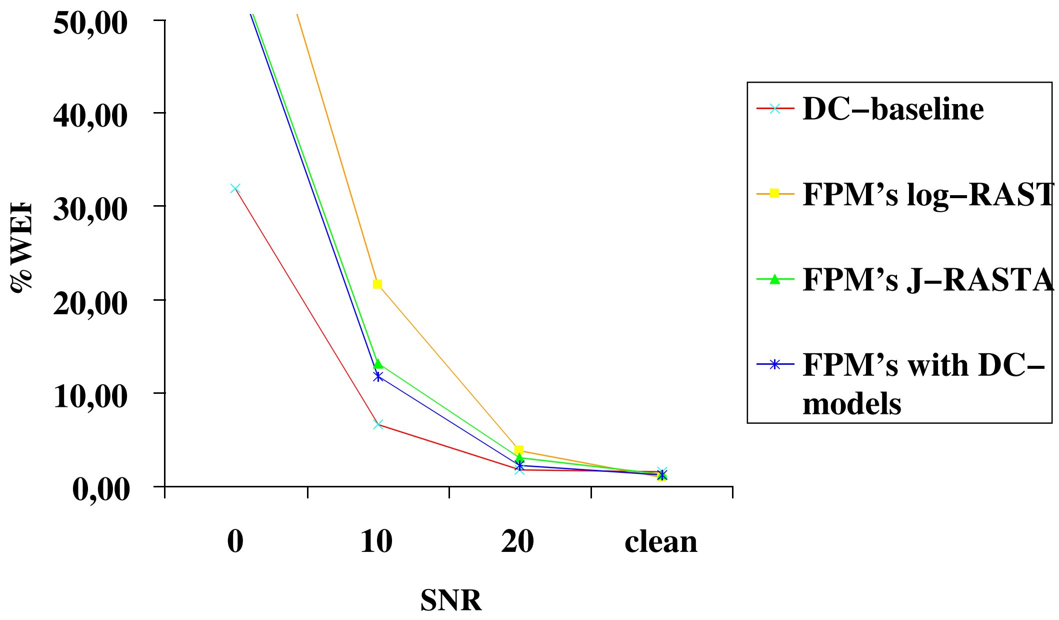
Experiments on different feature sets; comparison with DC baseline system

Joan Mari Hilario

Fritz Class

Comparison DC–baseline / FPM‘s

- FPM‘s: word models trained on **clean** speech
- DC: word models multi–condition training



RESPITE
workshop

Jan.25–27 2001

Martigny

Discussion about demonstrators

Fritz
Class

RESPITE demonstrators

Statements:

•our demonstrator strategy: „show project achivements (possibility of online application of the new techniques), **not** commercially relevant“!!

•a demonstrator makes sence only, if there are better techniques than in the baseline system
==> if we have really found such techniques (compared to the baseline system in offline simulations), we can build a demonstrator

•a full integration of the new techniques means a redesign of the complete system ==> not possible within RESPITE
==> combination of different modules (processes) via interfaces (files) or using DLL‘s under windows

•a demonstration could be done e.g. in a car using a laptop

RESPITE workshop

Jan.25–27 2001

Martigny

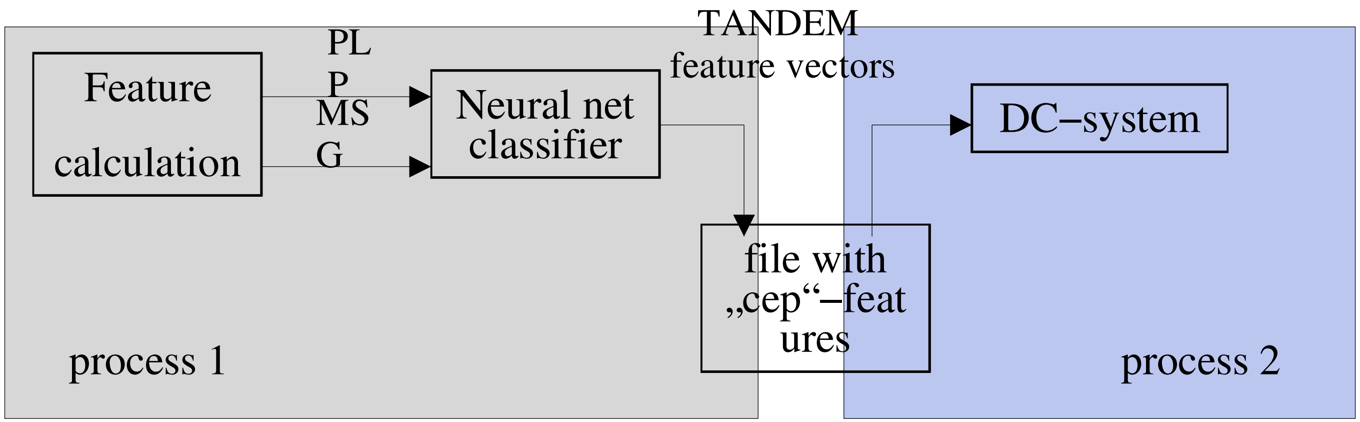
Discussion about demonstrators

Fritz Class

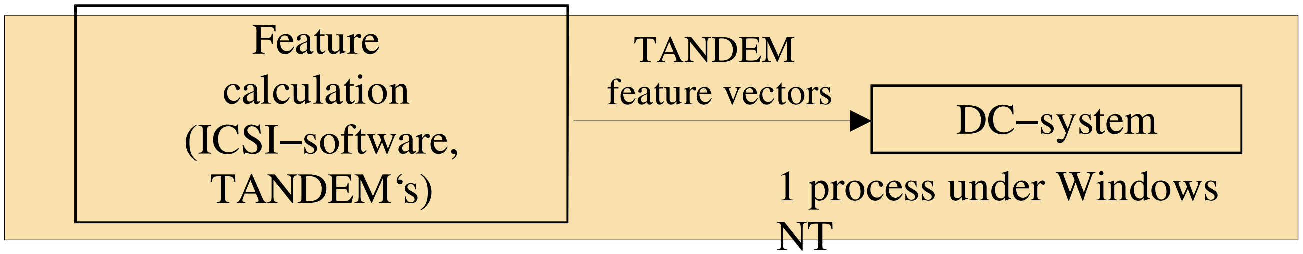
possible demonstration system:

TANDEM features with DC system

architecture 1



architecture 2



RESPITE
workshop

Jan.25–27 2001

Martigny

Discussion about demonstrators

Fritz
Class

RESPITE demonstrators

Questions:

- sources (ICSI) for TANDEM features ?
- missing data demonstrator ?
- What are „potential users with respect to the demonstrators“?
- Is anywhere a online system available ? Portable? Under which system?