

# Challenges in the Evaluation of Interactive Cognitive Systems

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EUCogII-Euron Workshop: Challenges, Good Experimental Methodology & Benchmarking

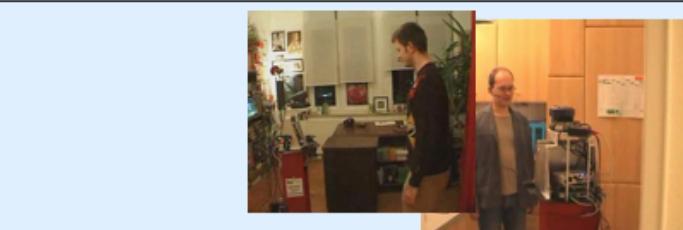
Västerås, April 8, 2011



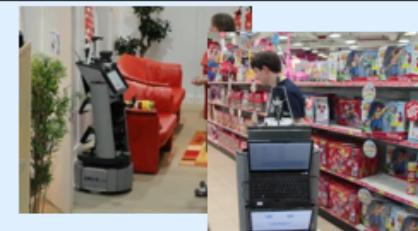
# Interactive cognitive systems



interactive manipulation



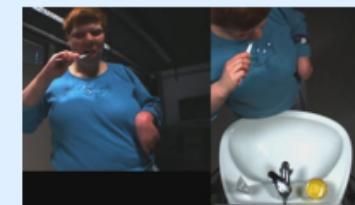
service robotics



tutoring,  
receptionist,  
motivation



task assistance



1993

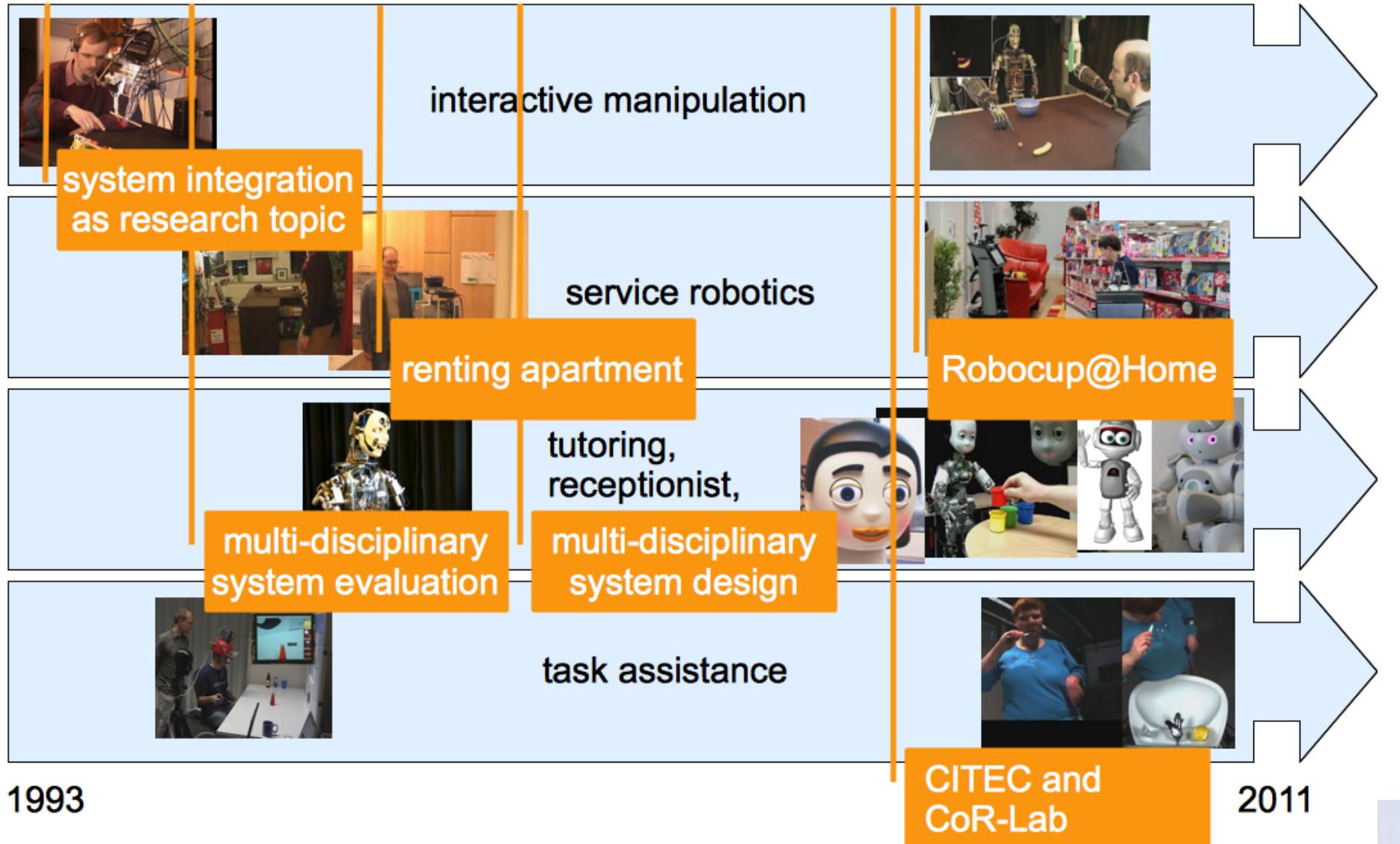
2011

**COR-Lab**

**CITEC**

Universität Bielefeld

# Interactive cognitive systems



# User in the loop

2007



# User in the loop

2010

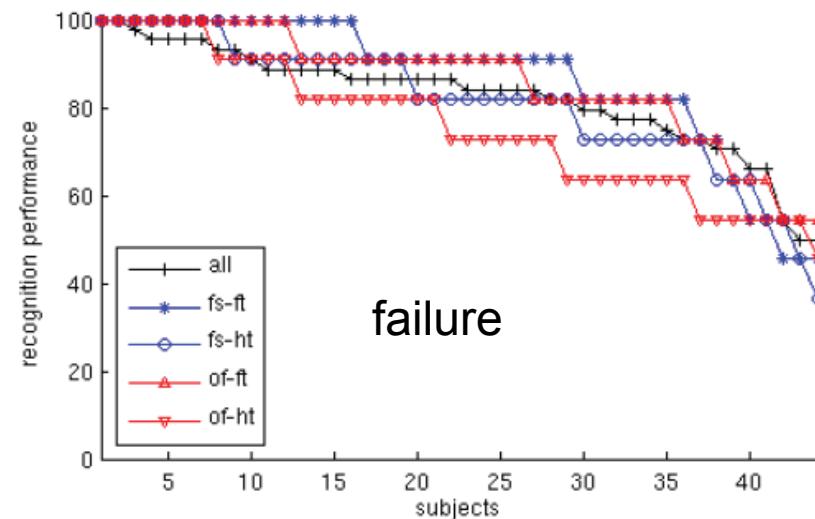
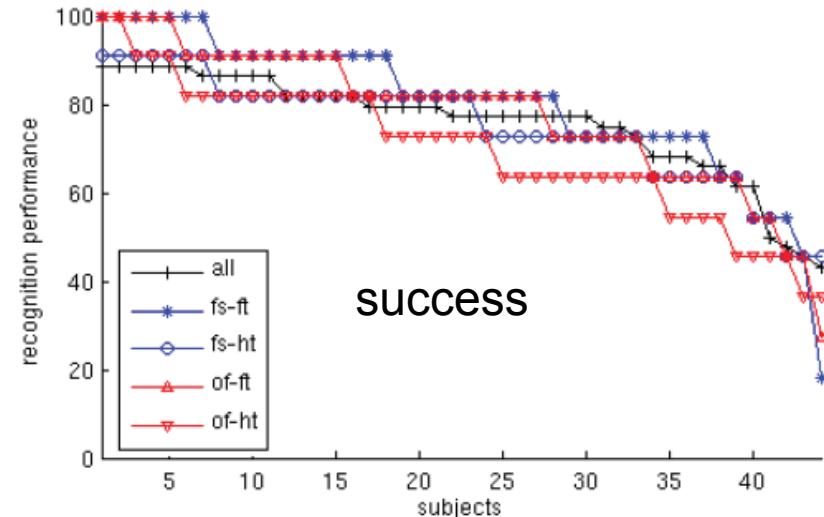


# User in the loop



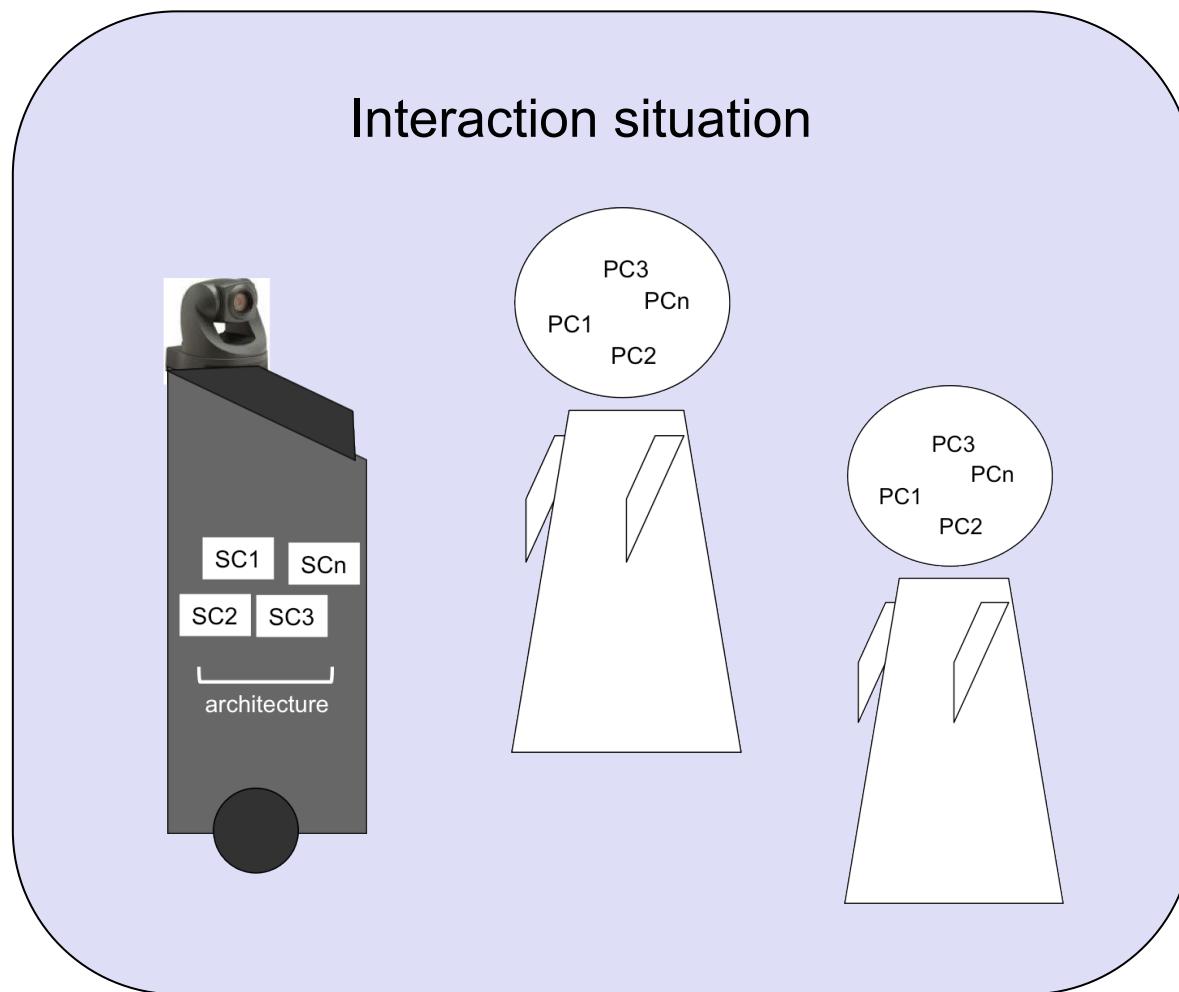
item	1	2
<i>overall behavior</i>	2	3
intelligent : dumb	3	3
predictable : unpredictable	2	4
talkative : quite	2	1
fast : slow	2	1
interested : indifferent	3	1
active : passive	3	2
polite : impolite	3	3
friendly : unfriendly	3	3
obedient : disobedient	3	3
diversified : boring	1	2
useful : useless	-	1
practical : impractical	-	1
cooperative : uncooperative	3	3
funny : serious	2	2
attentive : inattentive	3	2

# Ground truth

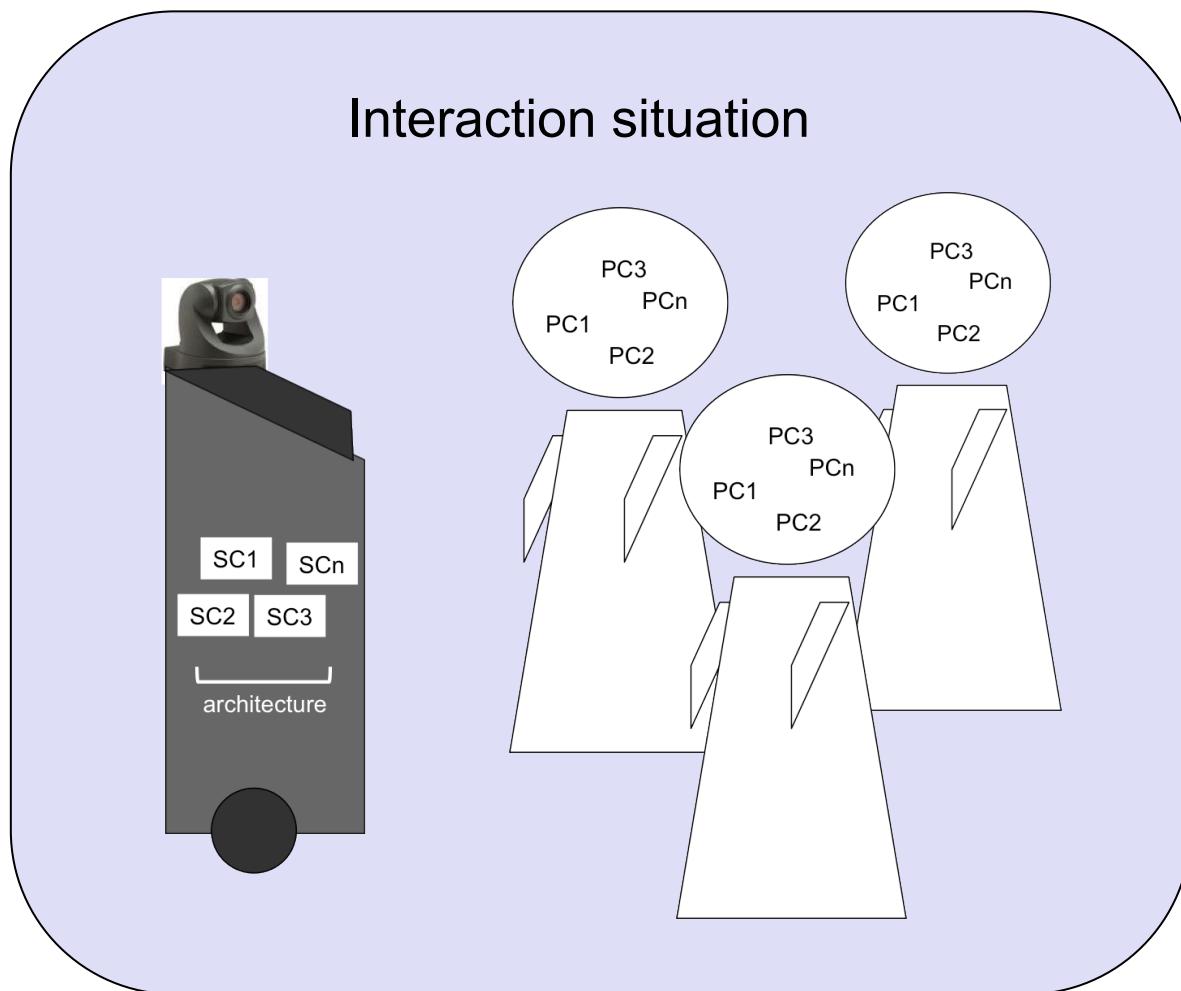


Lang, C., M. Hanheide, M. Lohse, H. Wersing, and G. Sagerer (2009), "Feedback Interpretation based on Facial Expressions in Human–Robot Interaction", RO-MAN, Toyama, Japan, pp. 189-194.

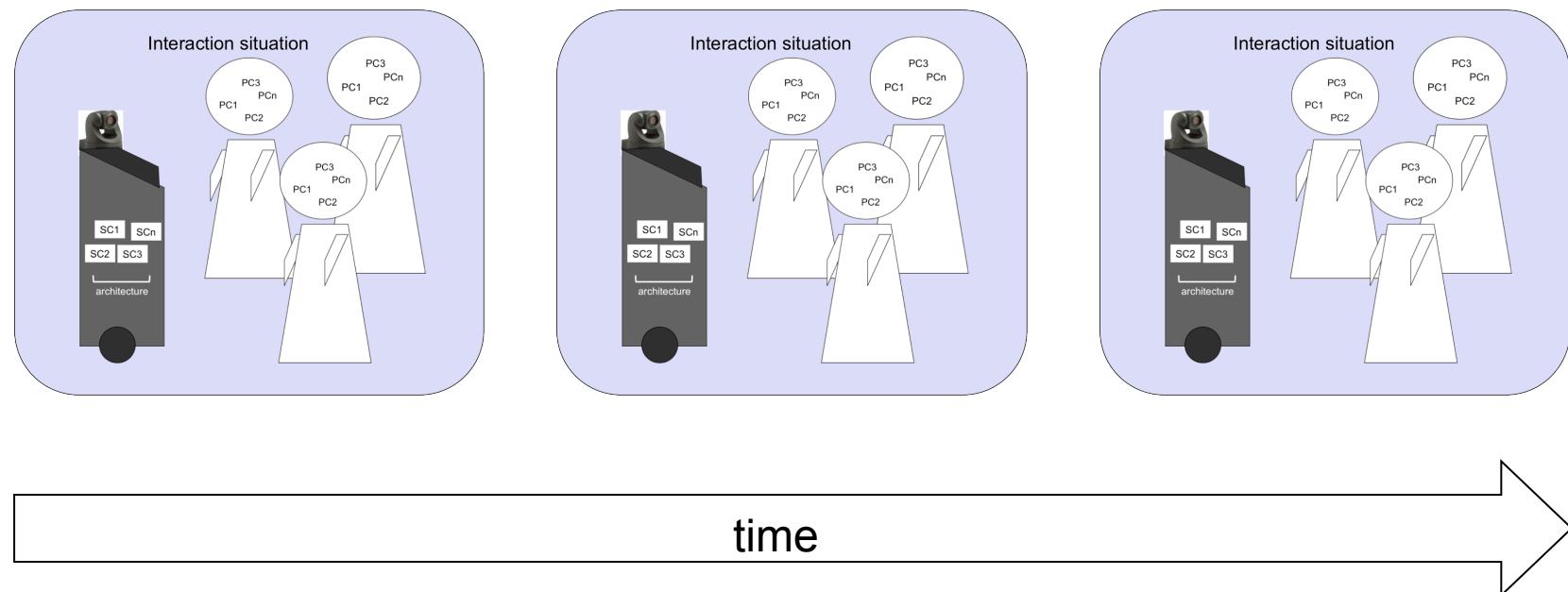
# Future challenges



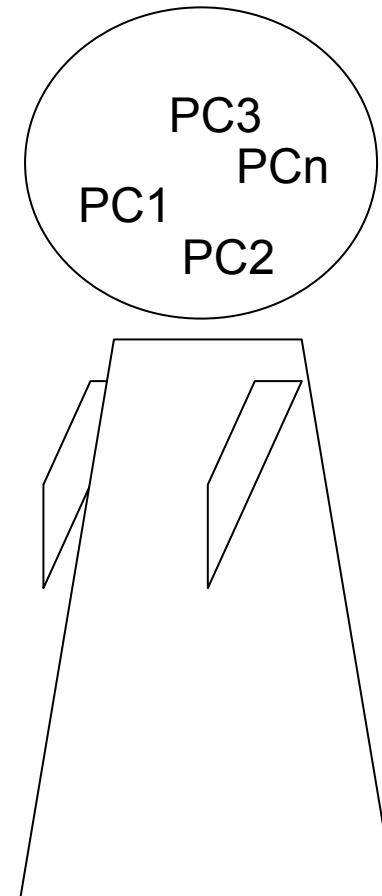
# Future challenges



# Future challenges



Thank you for your attention!



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