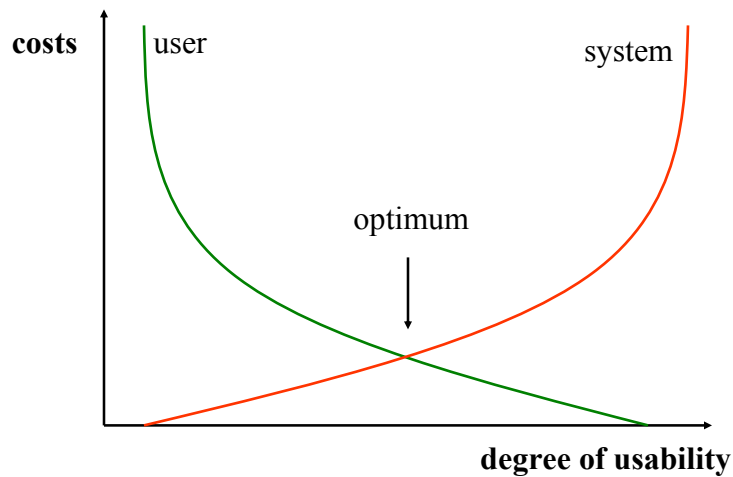


Interaction styles

Matthias Rauterberg
GOOGLE: rauterberg
2005



The optimization problem



What is the state-of-the-art?

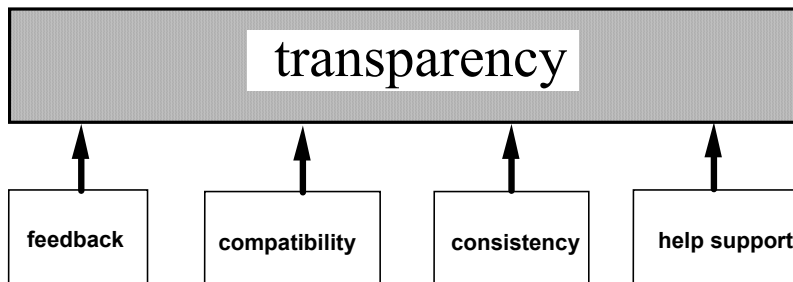
- **Discrete** interaction styles
 - command language
 - menu
 - desktop
 - direct manipulation
- **Continuous** interaction styles
 - ...

What comes in the future?

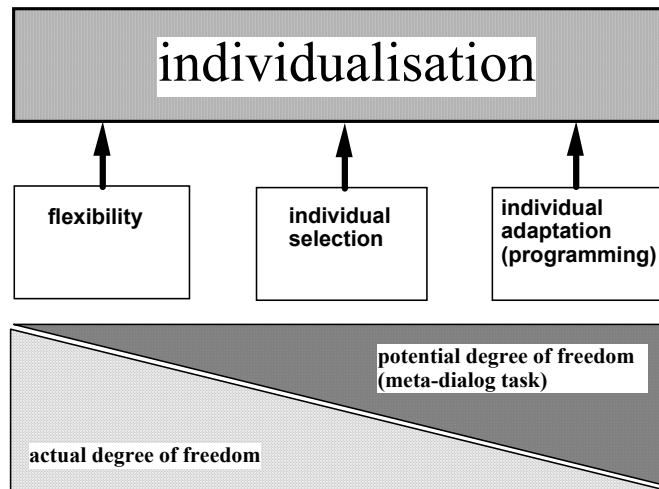
- **Continuous** interaction styles
 - speech input/output
 - computer vision based input (e.g., gestures)
 - audio interfaces (e.g., non-speech audio)
 - tactile and force feedback
 - biophysical signals (e.g., retina scanner)

DIN 66 234 part 8 (1988)	EC directive 90/270/EEC (1990)	ISO 9241 part 10 (1996)	Ulich (1991)
suitability for the task	suitability (activity adapted)	suitability for the task	task orientation
self-descriptiveness	feedback about system states	self-descriptiveness	transparency
	appropriate format and pace of information presentation		feedback
conformity with user expectations		conformity with user expectations	compatibility
	information and instruction of user	suitability for learning	consistency
	ease of use applicable to skill level	suitability for individualization	support
	hearing and participation of users		selection possibilities user definability
controllability		controllability	participation
error robustness		error tolerance	flexibility

The first dimension



The second dimension

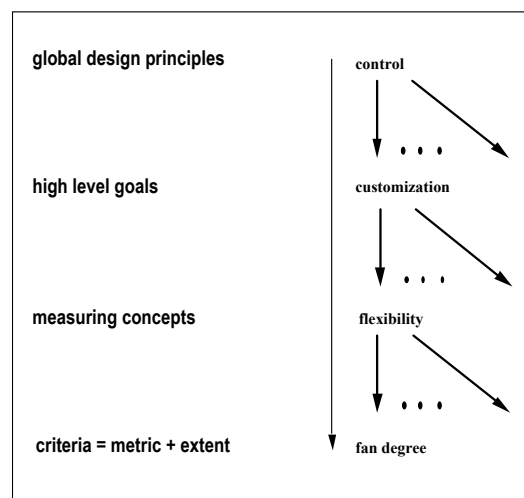


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How to measure usability?

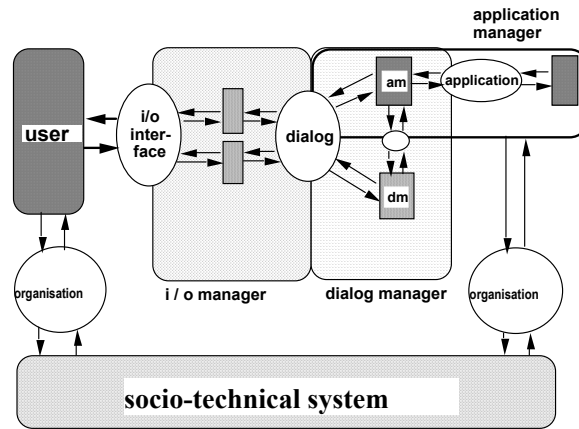


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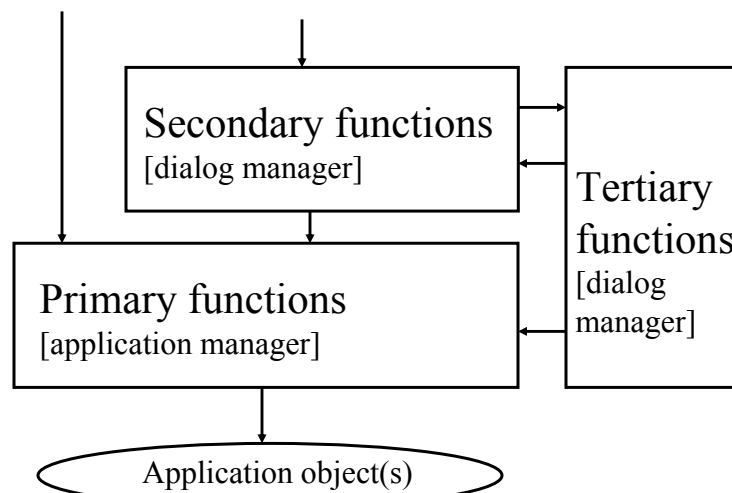
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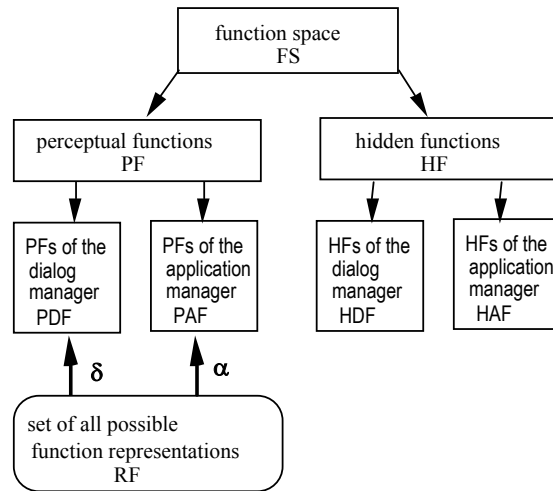
The interface architecture



Three different function types



The function space

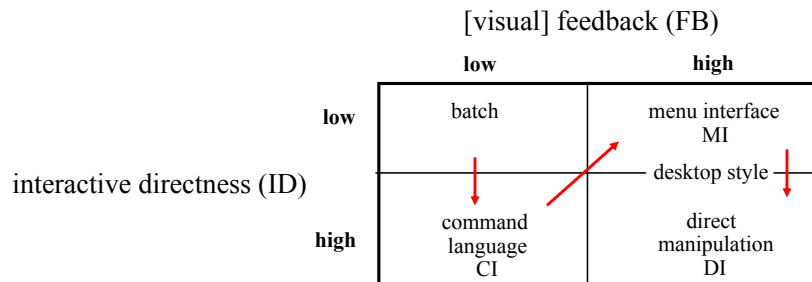


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Two dimensions for interaction

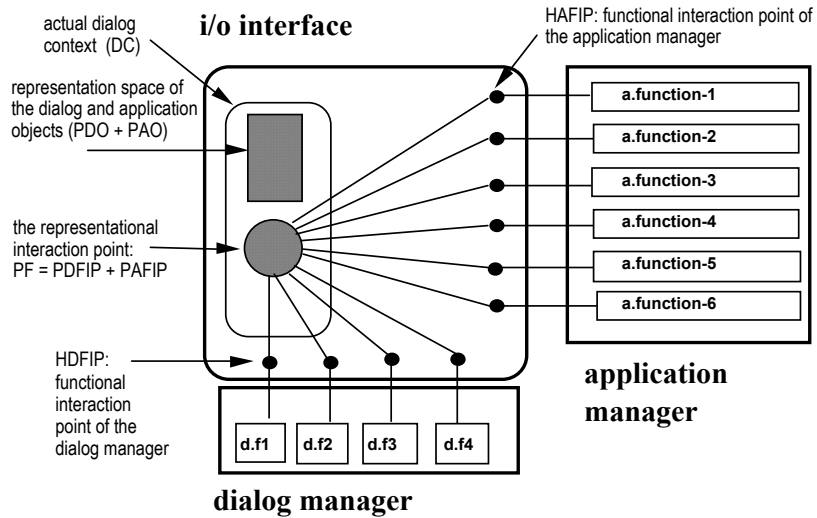


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Command language interaction

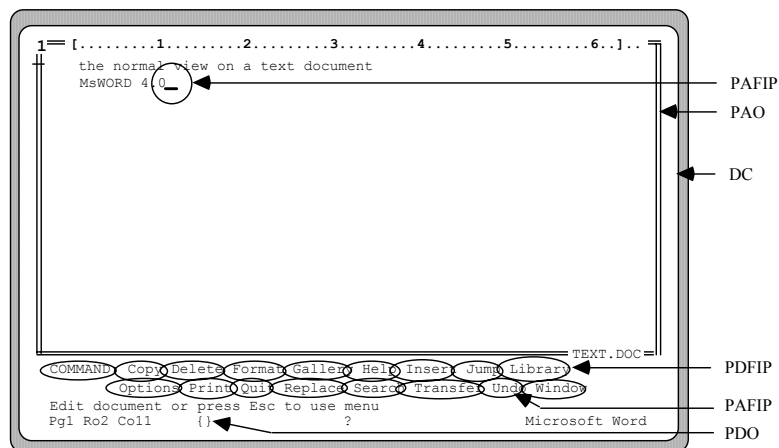


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Menu interface

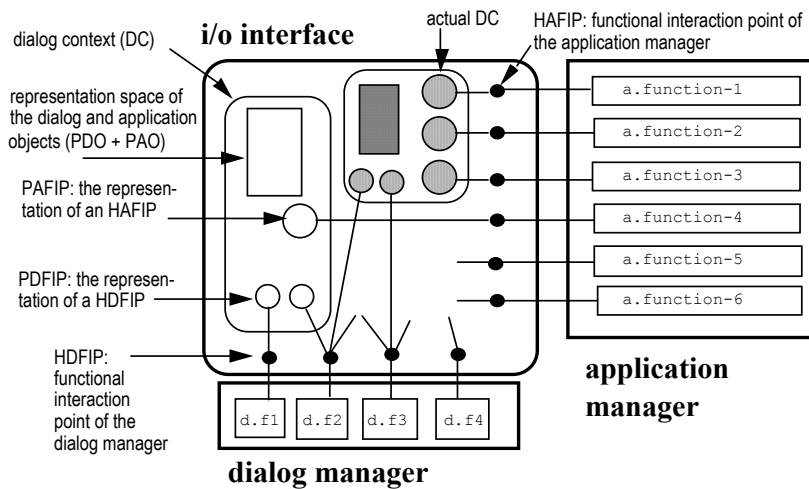


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Menu interaction style

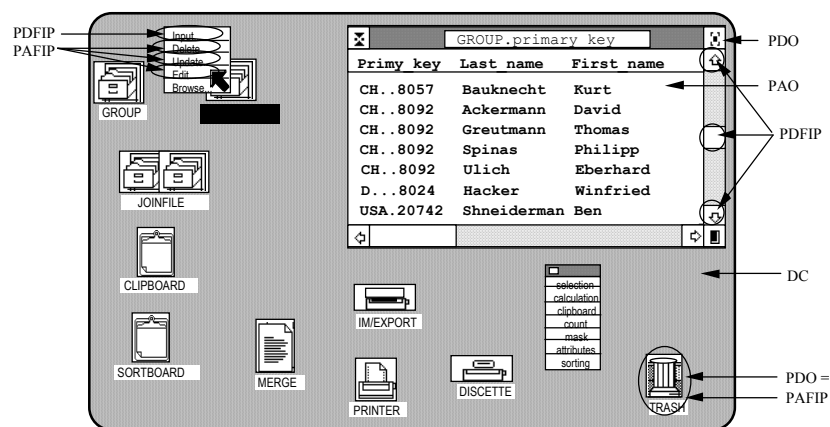


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Direct manipulation interface

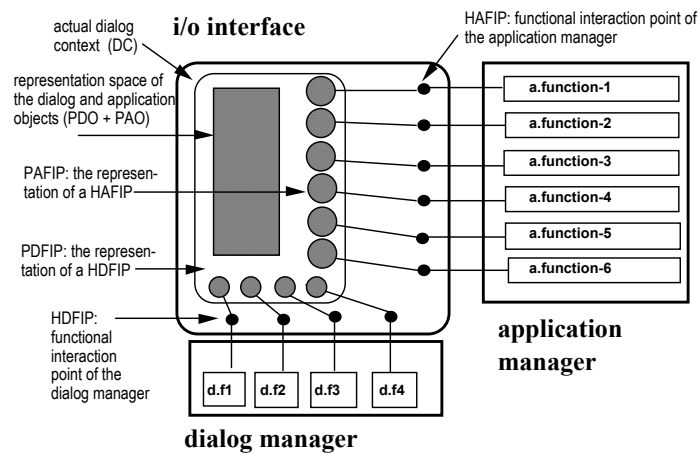


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Direct manipulation interaction



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