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User experience sampling

TNO Human Factors

TNO | Knowledge for business



User experience

Usability: not only performance or process measures

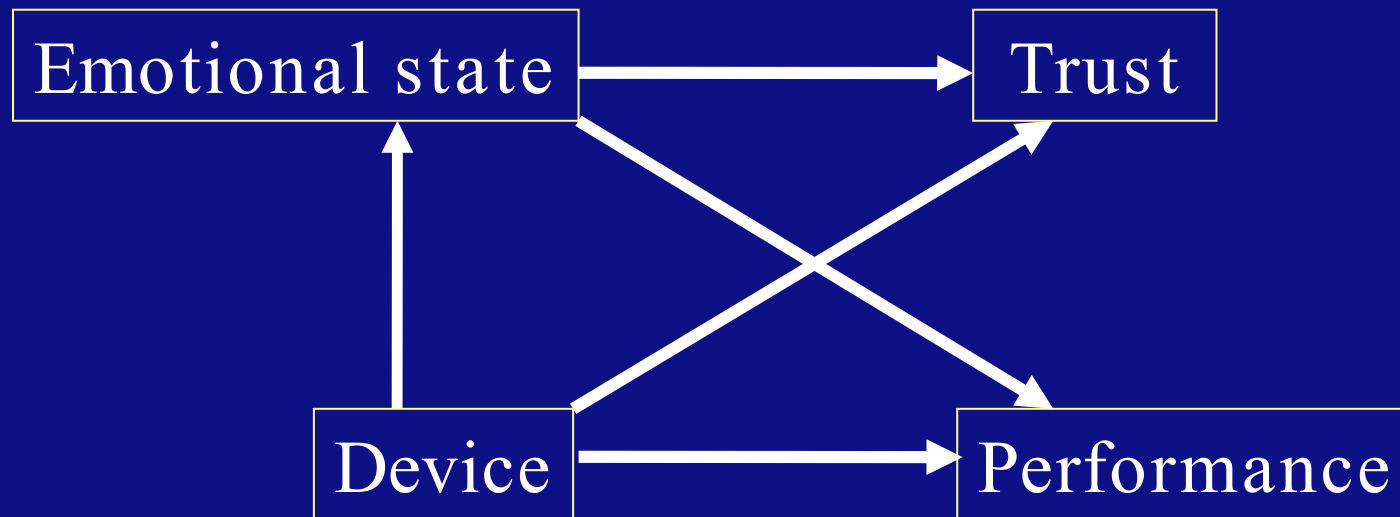
- What is user experience?
 - “Satisfaction” = classical measure
 - “Fun”
 - “Emotion”
 - “Trust”
 - “Frustration”

- Dependent on
 - task
 - context
 - device



PALS project

- Personal Assistant for onLine Services
- Research questions:



Research model

- Dimensions of emotion
 - Arousal (the “quantity”): High or low
 - Valence (the “quality”): Positive or negative
 - Example: **Anger**: high arousal, negative valence
- Trust
 - based on predictable, competent system behavior
 - servitude: system serves the user (Muir, 1994)



Method

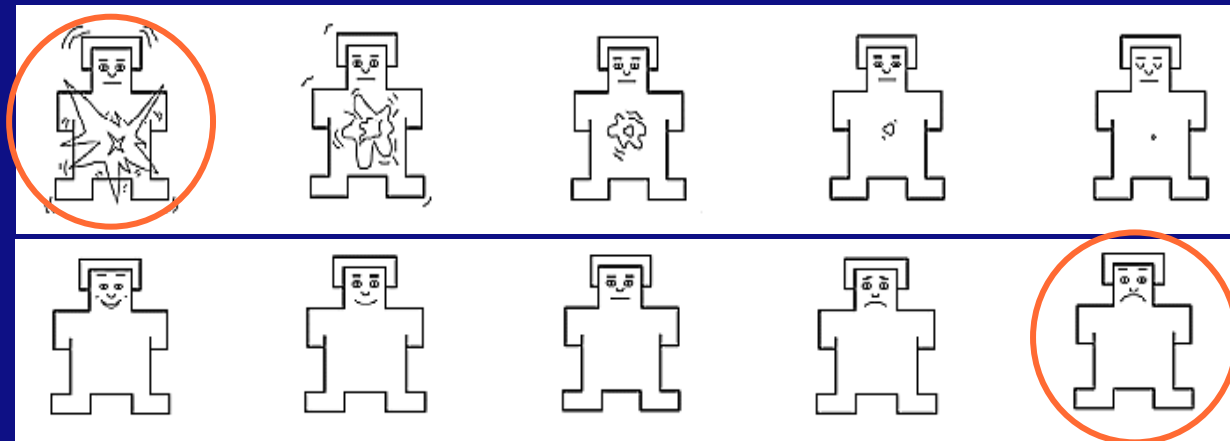
- Eliciting emotions
 - by watching short films with music
- Tasks
 - retrieving information (financial, entertainment)
 - transactions (buying stocks)
- Device
 - Compaq iPaq handheld
 - Sony Vaio Laptop



Dependent variables

- **Emotional state** (= manipulation check)
 - Physiological measures (HR, HRV)
 - Self Assessment Manikin: arousal & valence
- **Trust** questionnaire

- **Effectiveness & Efficiency**
 - time on task
 - errors
- **Mental Effort**
 - Rating Scale Mental Effort (BSMI)



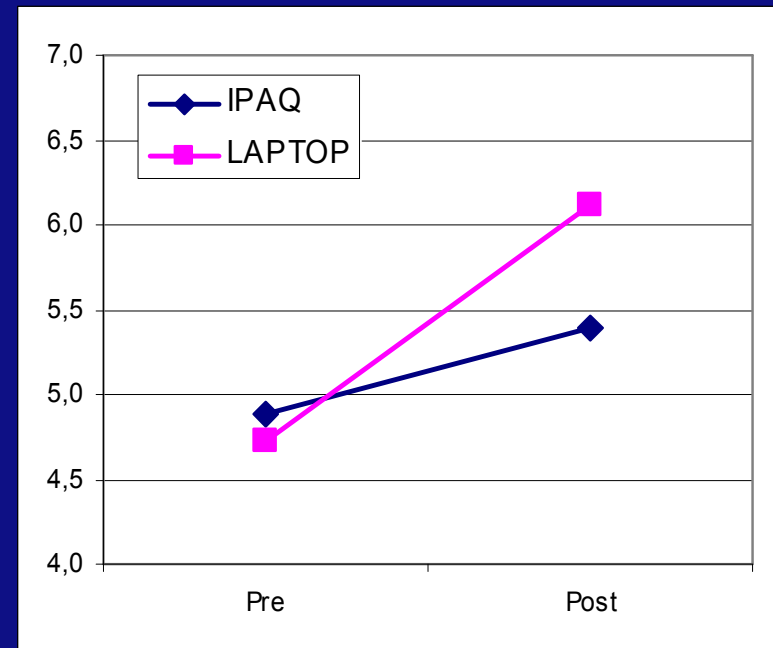
Results I

- Manipulation not (entirely) successful.
 - No main effects of emotional state.
 - Performance with mobile device was worse after high arousal, positive valence condition.
- Device:
 - Performance worse and mental effort higher for mobile device.
 - Trust in web service lower when using mobile device.



Results II

- Relation between trust and performance
 - when performance went well, trust in web service was higher.
- Trust in device:
 - mobile device vs. laptop
 - pre vs. post



Conclusions

- Difficult to elicit emotional responses in test participants
- Trust in device & trust in website
- User experience influences HCI

Thank you for your attention

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