Cognitive Ergonomic Design as Exploratory Data-enabled Design

Geert de Haan

Amsterdam – Munich – Vienna - Apeldoorn
We all already work cyclic: pdca, quality management, empirical cycle, scrum/agile, even governance – how about CE?

My design "ideology"

- ucd
- co-creation
- conceptual (not restricted by implementation or build)
- agile / prototyping
- exploratory

Where CE/HCI has been and where it should be

We work user-centred, iterative, evidence-based and contextual – don’t we?
No! (Steen, 2008).

No need to discuss HCI vs. CE: both are complex, social and user centred
How to understand where CE is and how to move on

Generations of IT hardware:
- mainframe, mini, pc, game computer, smart phone – too narrow!

Instead: paradigms/approaches:
- engineering - linear design
- task performance - guidelines
- problem solving - structured design
- mental models - iteration, ucd
- user experience - prototyping
- user engagement / gamification - co-design and .. getting hooked

My inspiration:
- no make-belief usability experiments (Phil Turner) but lightweight tools/small theories
- teaching media design: designs are never final or finished (cf. agile, scrum ...)
- data collection has never been easier (Harper et al, 2008).
- products themselves are connected: web-pages, IoT, jet engines, dykes, cars, trucks. Jan Bosch: usage data drives R&D
Towards Cognitive Ergonomics as Data-enabled Design Exploration

Example: van Kollenburg and Bogers (2019). Data-enabled Design - of i.a. a commercial connected baby-bottle:

- user experience data
- prototype usage data

human/users are for more than eliciting requirements or guinea pigging usability evaluations