

Abandoning design problem objectivity

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The concept of agent–environment mutuality—that we cannot separate cognition from the environment and context in which it is immersed—found in James Gibson’s ecological approach to perception has been found to be a more fundamental property of human cognition than perhaps previously thought. In Cognitive Systems Engineering it forms the basis and justification for performing cognitive task analysis and has become a powerful tool for analysis, both for understanding practitioners’ work and for reinterpreting what some call “human error”.

However, on the design side, little consideration has been given to this concept. While it has been the basis of some design efforts, these are reflected in the artifacts produced rather than in the process employed. Yet characterizations of design problems and the widely differing characterizations of the activity of design itself suggest strongly that the agent–environment mutuality plays an important role in design too.

Taking the agent–environment mutuality seriously forces a reconsideration of what constitutes a design problem. When seen as a contextually anchored, relational, and emergent property, requirements specification becomes a futile activity aimed at ‘objectifying’ design problems which fails to deal with the properties of envisioned worlds: plurality, underspecification, groundedness, and calibration.

Guided Storytelling is an alternative approach based upon recognition of the multiplicity of views across stakeholders of what constitutes a design problem. Seeing prototypes and artifacts as placeholders of expectations of future working practices, and through a participatory effort of assessing them as such, it provides triangulated input to a data-driven design process that helps ground design decisions. The output of such a design process can be expressed as a design seed for future design work, provided it fulfils the requirements of argumentative rationality. Doing so means changing the focus of research efforts from artifacts as objects towards artifacts as hypotheses, and the discursive process of assessing the merits of such hypotheses in terms of impact on cognition and practice.

This short talk will consider some of the evidence in favour of design problems as non-objective, but as relational properties resulting from the agent–environment mutuality. A brief presentation will be given of the technique Guided Storytelling, along with some experiences of its use.