Web 2.0-Facilitated Collaborative Design as an Emergent Process: An Actor-Network Theory Perspective

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Abstract: In this article, we demonstrate the efficacy of Actor-Network Theory's (ANT) moments of translation as a methodological approach to understand the emergent nature of Web 2.0-facilitated collaborative design process. The aim was to contribute to design research by developing an ANT methodological framework for studying designers at work. The article is based on a study of Web 2.0-facilitated collaborative design project carried out from 2014 to 2016. The study traced a small group of four to five undergraduate engineering students as they collaborated on a design problem in the Web 2.0 platform of their choice. Latour's concept of translation and Callon's four translation moments are used to analyze the network building during in situ. The analysis followed both human and non-human actors as they participated in the collaborative design process. The study reveals that Web 2.0-facilitated collaborative design is an elusive process whose path cannot be determined a priori. The process emerges from drawing things together through the translation of designers' thoughts, ideas, opinions, drawings and goals embedded into a network of relationships. The article concludes that ANT's moments of translation could be used to illuminate the emergent nature of Web 2.0-facilitated collaborative design process.

Keywords: Web 2.0, Collaborative Design, Actor-Network Theory, Translation

Introduction

This article demonstrates how the Actor-Network Theory's (ANT) moments of translation could be used to rethink the concept of Web 2.0-facilitated collaborative design. The need for a reconsideration of the way collaborative design is carried out has been necessitated by the ever-increasing complexity in the design process as new actors come into play. Gasparin (2014) notes that the collaborative design process has become a more heterogonous network of allies and is an outcome of a construction process of things brought together by mobilizing and enrolling actors through the translation of goals. The integration of Web 2.0 technology into the design process has brought fundamental changes to both the nature of the design process and the conditions under which design is carried out. Designers no longer need to gather at the same time and place to work together on a design problem. They can meet in a Web 2.0-based virtual design studio where they are not constrained by space, distance, and time. Furthermore, the design process has become a chaotic process that is faced by the inevitable risk of unpredictable consequences (Gasparin 2014).

In the face of these changes, the simple sequential and hierarchical models of the design process can no longer hold, considering the messy nature of real-world design situation (White et al. 2016). The collaborative design process has become a heterogeneous network comprising both human and non-human actors entangled in a network of working relations (Storni et al. 2015). Therefore, new research approaches and methodological frameworks are needed to address the increasing scope, scale, and the trajectory traced by the design process. In this vein, this article proposes ANT's moments of translation as an analytical framework that can be used to trace the emergence of the collaborative design process. What makes ANT the most suitable theoretical framework for collaborative design research is its focus on the diversity of actors,

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