
Abstract:
Creative design activities in the development of software-intensive systems involve the wide use of visual tools, such as flowcharts and UML diagrams. In this research-in-progress paper, we explore the potential of eye fixation related potential (EFRP) as a method to assess the efficacy of visual notations used to build and evaluate IT artifacts. Drawing on past work in the areas of visual syntax and semantics, we ask whether selection of visual forms is a significant predictor of design artifact quality and utility. In particular, we propose a study that combines the use of EEG and EFRP methods to analyze the neurophysiological correlates of how designers employ visual syntax in the development of IT artifacts for software-intensive systems. Implications for both research and practice are discussed.

Keywords: Visual notation; Diagrams; Eye fixation related potential; Electroencephalograph