Abstract

Traditionally software development is concerned with the computer as the sole computational agent. Here both the environment and problem are well understood and thus the emphasis is on the abstract specification. However, there is an increasing awareness of the central importance of sense-making activities throughout the software lifecycle. For this, flexible modeling tools are needed to address the demands of modern software development. The purpose of this paper is to introduce an innovative approach to computing – Empirical Modelling – and to propose a way of applying this approach for software development of this kind, so as to avoid the limitations of conventional approaches. Based on the concepts of agency, observable and dependency, EM is an experience-based approach to modeling with computers in which the modeler interacts with an artifact through continuous observations and experiments. A framework SPORE (situated process of requirements engineering), which has been proposed to guide the process of cultivating requirements in a situated manner, is extended to participative process modeling. The vision of how software development could be radically altered by considering EM principles will also be discussed.

Keywords – Empirical Modelling; Software Development; Experience-based; Process Modelling.