ABSTRACT
This paper develops vocabulary to discuss the phenomena related to the new design paradigm, which considers designing as a situated and constructive activity of meaning making rather than as problem solving. The paper studies how design projects proceed from the fuzzy early phases towards the issues of central relevance to designing. A central concept is framing, and it is elaborated with examples from two case studies. Several aspects of framing are explicated, exploratory, anticipatory and social framing, and related concepts of ‘focusing’, ‘priming’, and ‘grounding’ are explained. The paper concludes that understanding designing as a situated and constructive making of meaning has bearings on how designing needs to be supported.

Author Keywords
Design framing, reflective practice, user-centered design, user-driven innovation.

ACM Classification Keywords
H.5.0 Information Interfaces and Presentation (e.g., HCI); H.1.2. Models and Principles: User/machine systems

INTRODUCTION
A new paradigm is emerging within HCI. Harrison et al. [14] identified three waves of paradigms within HCI, the first being “Human Factors/Engineering”, the second “Cognitive Revolution”, and the third “Situated Perspectives”. Change towards the third paradigm is evident, first, in the increased awareness of the dynamic character of use contexts; second, in the sociality and situatedness of interaction; third, in the issues related to learning environments; fourth, in non-task-oriented computing (such as ambient interfaces and experience-centered design); and fifth, in the role of emotions in human-computer interaction [14].

Parallel to the emergence of the new paradigm, a heightened awareness of the importance of innovation has surfaced (see e.g. [9,20,22,24]). Globalization, increased competitive pressure, advances in technology, changing customer needs, and shortening product life-cycles are central reasons for the increased importance of innovation activities [6] in all fields of designing, including the design of human-computer systems, services, and products. As a result, Grounded Innovation [23] is beginning to form as a domain within HCI.

Innovation projects are those that aim at creating novel products, systems, or services. The central dilemma in such projects is the question “what to build”. This question is known as the most significant and difficult question a design team needs to answer [4]. The process of developing understanding of novel design opportunities differs substantially from the design process of a known product (see e.g. [5,20,34,39]). While the first two paradigms focused predominantly on the optimization of the performance of man-machine systems based on identified problems, the third paradigm promotes a view towards the situated and emergent properties of interaction [14]. The fundamental difference therein demands a critical reconsideration of the concept of ‘design problems’ that dominated design thinking throughout the 20th century.

Already in the 1970s Rittel and Webber [27] problematized the idea of the design problem. They contended that design problems are “wicked” by nature and that every attempt to solve a design problem frames the problem anew [27]. Dorst and Cross [8] have later illustrated how design problems are dependent on possible ways to solve them. Due to the open-endedness and the explorative character of innovation design, it is possible that a design problem does not exist at the outset of a project. Innovation design may be grounded, for example, on the exploration of a theme, whereby the object of action may be too ambiguous to be understood as a design object in the early stages of the project (see e.g. [25]).

Instead of design problems, the third paradigm promotes meaning making to the center of focus [14]. Understanding designing as a constructive activity of meaning making renders the terminology of problems and solutions obsolete. Rittel and Webber [27] stated, “The formulation of a