Towards A Taxonomy of Requirements for Hybrid Products

Abstract:
In order to differentiate from competitors and to respond to new customer expectations, many organizations develop hybrid products, composed of hardware, software and service elements. Determining the requirements for a hybrid product, however, can be complex. Designers must address the requirements for each of the product elements, as well as the interfaces and interdependencies among them and the service organization. Complexity increases with stakeholder interests associated with each element. As a first step towards reducing this complexity, we derive a taxonomy of requirements for hybrid products. We begin by analyzing requirements literature in the three disciplines: hardware, software, and service requirements and synthesize requirements categories from each discipline. Next, we synthesize a taxonomy of requirements for hybrid products, defining and describing each category. We conclude with limitations of our work and directions for future research to refine and utilize the taxonomy.