A Development Model of User Creativity Platform

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Abstract. As the generation changes, the wide variety of information available has sparked a lot of creativities in the new generation of users. The users expect to modify or successively design the products after purchase according to their own creative needs. “User creativity orientation” becomes a focus in new product development. Products which facilitate user’s creativity can be viewed as a creativity platform. The development of software in this aspect has been going on for years, while the research and relevant discourses on physical products are still lacking. This study proposes a development model of User Creativity Platform (UCP) for physical products, which includes eight steps: (1) User creativity needs exploration, (2) Functionality classification, (3) Primary and secondary components development, (4) Creativity-friendly interface design, (5) Design prototyping, (6) Creativity potential confirmation, (7) Intellectual property protection, and (8) Implementation. According to the proposed model, a set of the storage furniture has been developed and successfully granted invention patent. The model opens up a new dimension for designers to develop a user-friendly interface for user creation, rather than merely for user assembly. The feasibility of the model was also validated on the flexible furniture and toy design for pre-school kids.

Background

Product development has advanced from function and cost-centered modular design \([1, 2]\) in the past to the customized design that emphasizes user characteristics \([3]\). Current customized design mostly focuses on the differentiated selections of partial components, but it fails to provide a greater range of design flexibility in accordance with users’ creativity needs. “User creativity-oriented design” gradually becomes one of the key points of innovation \([4, 5, 6, 7]\), and many entrepreneurs start to learn to trust, opening up part of the right of design and creation to the users. The design task is gradually transferred from the design end (e.g. professional designers, design companies, design and development departments of industries) in the past to the user end \([8, 9, 10]\), and due to the infusion of different users’ creativities, the products can gradually become experience-oriented and multi-functional.

Hence, a consumer not only plays the role as a buyer but also an innovator further in the process of product innovation. New product development focusing on “functional needs” has therefore gradually transferred to “creative needs.” Consumers are getting more and more interested in “the experience and emotion gained from the products” instead of the products themselves. Users have become a major source of innovation \([11, 12]\) and “user’s creative needs” should be considered in the process of product innovation. However, designers are unable to know exactly the user’s mode of thinking and complete demands \([13]\), and few studies provide clarified definition and suggest practicable design process. Due to the lack of a model that concerns users’ creative needs and targets at the physical products, this study proposes a development model of User Creativity Platform (UCP).