عنوان مقاله:

Understanding Experiential Qualities of Light-Touch-Matters: Towards a Tool Kit

محل انتشار:

دوفصلنامه تفکر طراحی, دوره 1, شماره 1 (سال: 1399)

تعداد صفحات اصل مقاله: 20

نویسندگان:

Bahareh Barati - *Postdoc Fellow, Faculty of Industrial Design Engineering, Delft University of Technology, Delft, Netherlands*

Elvin Karana - *Associate Professor, Faculty of Industrial Design Engineering, Delft University of Technology, Delft, Netherlands*

Paul Hakkert - *Professor, Faculty of Industrial Design Engineering, Delft University of Technology, Delft, Netherlands*

خلاصه مقاله:

The present paper is about the tools and strategies, designers adopt and develop to support their understanding of an underdeveloped smart material composite. Referred to as Light-Touch-Matters or in short, the LTM materials, the composition is proposed by materials scientists, integrating the two smart materials of flexible thin-film Organic Light-Emitting Diodes and piezo-electric polymers. In a project funded by European-Union, materials scientists and designers joined forces to further develop such smart material composites through early design input. In order to introduce and represent the LTM materials to designer's prior their actual development, materials scientists mainly used abstract descriptions, 'key' physical properties and sensing/actuating function. Such representations, however, hardly capture the experiential qualities of LTM materials, which concern how they gratify our senses and what meanings, emotions and actions they elicit. This paper has conducted four design case studies to identify the design approaches and representational tools used and developed by designers for understanding, exploration and communication of the experiential qualities of these underdeveloped smart materials. Discussing the limitations of the identified tools in terms of capturing the dynamic and performative qualities, the paper draws further implications towards a future design Tool Kit.

کلمات کلیدی:

Smart Materials, Materials Experience, External Representations, Design Tools, design process