UNVEILING THE HUMAN-COMPUTER INTERACTION (HCI) ELEMENTS IN DESIGN PRINCIPLES AND CONSTRUCTION OF SMART HOME

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Abstract

With the rapid development of the Internet of Things (IOT) and artificial intelligence technology, smart home design has become an important part of the modern living environment. As a pivotal factor in smart home user experience, Human-Computer Interaction (HCI) requires optimized modes and attributes to enhance satisfaction. Smart home system provides convenient life experience, but the complex interaction mode and unclear interaction attributes may lead to user operation difficulties and affect user acceptance. Therefore, a further study of the mode and attributes of HCI is of great significance for the design of a more humanized intelligent home system. The purpose of this study is to explore the variables related to the characteristics of HCI in existing smart homes. The key variables are extracted through extensive literature review and the semi-structured interviews, involving ten experts and managers of smart home design in Hefei,

China. The findings revealed seven (7) criteria; Fault Tolerance, System Design, Usability, Measurability, Privacy, Fast Response Time, and Security, as design principles in smart homes. It is hoped that the findings will help smart home developers and designers to better understand user needs to design a more efficient, intuitive and satisfactory smart home interaction system.

Author keywords

Design and construction; human computer interactions (HCI); HCI characteristics; Semi-Structured Interview; Smart home design

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