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Material Driven Design (MDD): A Method to Design for Material Experiences

Materials research constantly offers novel materials as better alternatives to convention. Functional aptness is taken for granted at the first commercial launch of a new material. Nevertheless, this alone may not be enough for its commercial success and widespread use. The 'material' should also elicit meaningful user experiences in and beyond its utilitarian assessment. This requires qualifying the material not only for what it is, but also for what it does, what it expresses to us, what it elicits from us, and what it makes us do. In search of a proper application through such an understanding, material scientists and industries have reached out to designers to guide the development of materials by experiential goals. However, how to design for experiences with and for a material at hand has been poorly addressed to date. In this article, we propose a method, Material Driven Design (MDD), to facilitate designing for material experiences. After explaining the theoretical foundation of the method, an illustrative case is presented where 'coffee waste' is the subject of a design effort to conceive a new product concept. Finally, possible research directions are addressed to bring new insights to the effective application of the MDD method to diverse projects.

Keywords
Materials Experience, Experience Design, Materials, Material Driven Design, Designing with Waste

Abstract

Translation

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Analysis of the Principles for Branding of Iranian Herbals

One of the activities of industrial design specialists and experts is branding. Brand's role in identifying a company's product is undeniable in today's expanding markets. Making a strong brand is the ultimate goal of many organizations. A reputable brand should offer at least one distinct advantage because no amount of simulation can compensate for this shortcoming. Iranian artists, with the foundation of thinking and preserving the Iranian identity and interaction with other artists, be able to present their national works and assets on the world stage. In this descriptive-analytical research, the principles of designing the packaging of herbal teas for branding have been carefully considered. How to apply cultural ergonomic design criteria to achieve products tailored to people's tastes has been emphasized. Although branding is very important, the present study showed that other factors such as culture influence brand reinforcement, especially vegetable herbals brands. The results showed that if people were able to ensure that packaging products were as fresh as traditional products, people would be more likely to buy packaging herbals because nutritional information was included on the packaging. Understanding the nutritional information of herbals better helps people to choose and consume herbals. To encourage more people to buy herbals as packaging, brand names, trademarks, warranties, and endorsements also have a significant impact on product packaging.

Keywords
Cultural Ergonomics, Branding, Package, Herbal

Abstract

Review Paper

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The Importance of Consumer Emotions Analysis in Design Goblet and Decanter-Traditional Iranian Drink Glasses

Dining table is not only a place to gather for food and drink, but it also represents the art and culture of people throughout time. Related cultural traditions and rituals pass from generation to generation through the utensil use as significantly as the victuals. Persian lifestyle and culture has long played a major role in shaping the dining table utensil. The contemporary designs, however, are not much indicative of the Persian heritage particularly in case of drink glasses. Crystal and porcelain products designed in China, Japan and Czech designs saturate the market. In addition, most people do not show much willingness to use dishes with old design on their table. The aim of this study is to extract the physical characteristics emotionally affect people while drinking. Therefore a semi-structured interview and three experiments were arranged based on emotional design approach to test users' feelings and examine their form preferences. The tulip-shaped goblet which is heavier could satisfy the emotional aspect of design. Qajar-designed goblet and decanter would be able to highly affect users' feelings and identity, and regarding pleasure, meet their expectations.

Keywords
Emotional Design, Goblet, Decanter, Pleasurable Usage.

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Abstract

Research Paper

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Applying Product Language as an Intermediate between User and Technology in Dsigning a New Product

(Case Study: Home 3D Printer)

New technologies for whatever purpose have emerged will someday become public. These changes in life always require a long time to create a context. The design of 3D printers will also be included. Since the 1980s, there have been many ways to print 3D artifacts. These were all designed to meet the needs of industries and research, but manufacturers were not oblivious to home users. In this study, we tried to make the 3D printer with the technology available to persuade the home user and the user to experience pleasant exposure with the least complexity in interacting with the printer. Therefore, the product language as one of the semantic theories in the product was selected as the theoretical part of the studies and after extracting the 3D printer features from the perspective of the product language, these features were applied in meticulous design. These features, which include aesthetic, semiotics, and symbolic functions, along with essential semantic features such as affections and perceptual functions, helped the designer to design a product's communicative language, both in appearance and in usage and interactions, with enough communicative features to attract and appeal the user. With sufficient communication features to attract, encourage and use the user, although far from a new approach to 3D printing that exclusively meets the needs of the home user, this type of design can be expected to benefit from the design achievements of exclusively home-based printers in a team of experts.

Keywords
3D Printer, Product Language, Semantics, Product Design, Home Products

Abstract

Research Paper

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Feasibility of Anxiety Reduction in 4 to 6 year old Children with Cancer Using an Informtioal Game

With the advancement of technology and the dramatic growth of medical sciences, diseases such as cancer that were previously untreatable have now been cured. However, for many people, the disease is synonymous with death. Not knowing enough about the disease and its treatment process exacerbates fear and tension. Children with cancer usually do not have a clear and informed understanding of their illness, given their age and mood, so they are less likely to cope with it. This study aims to reduce children's anxiety and help them to improve their mental health by informing children through playing. In this regard, by designing a website and a game, in addition to indirectly transmitting necessary information about the disease and its condition, it has tried to reduce children's anxiety and increase their hope. The output of this research was designed on the basis of continuous interactions with users and the fabrication of multiple prototypes and was optimized by evaluating users to arrive at designs. Anxiety and life expectancy tests were also performed on users to determine the efficacy and validation of this product. The results showed that indirect awareness through play means can play an effective role in reducing anxiety in children with cancer and increasing their cooperation in the therapeutic process.

Keywords
Cancer, Children, Play, Life Expectancy, Anxiety Reduction

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Abstract

Research Paper

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Urban Smart Kiosk for Cloth Sharing: The Revival of the Iranian Culture of Donation

Fashion has transformed to a serious lucrative tool in today's marketing, as it offers a wide range of choices to users for their various possible self-expressions and look alterations, mostly through concentrating on users latent and blatant desires. However, fashion has been correspondingly considered, for a while now, as the fourth most pollutant industry after agriculture, mining, and transportation. That is, fashion has turned into a double-edged sword; by one edge, it finds its way to the realm of users' social positioning, lifestyle and identity and by the other, it swords to the face of our existence, wellbeing and the environment. Sooner or later, this double-sided life of fashion industry must be ceased or severely limited; the sooner, the better. One way of controlling the harmful footprint of fashion industry on the environment is to promote sharing behaviors of citizens through the donation of their clothes and providing clothes for underprivileged citizens; where, broken traditional and conventional rings of interpersonal relationships are juxtaposed within the context of urban environment. Consequently, people are not realized of their citizen fellows' needs and capabilities. Smart Urban Systems (SUS) replace traditional social networks and fill the gap of public trust amongst citizens for sharing their clothes. SUS will appropriately respond to the environmental concerns as well as supporting the trickle-down theory for the poor. In this paper, a framework is devised and suggested for the cultural establishment of trickle-down theory for the citizens, voluntarily willing to exchange, share or donate their clothes via the utilization of an urban furniture: A kiosk, enhanced to physically collect and deliver clothes and digitally manage the whole process of providing the service of sharing citizens' clothes.

Abstract

Promotional Paper

Keywords
Donation culture, Smart city, Smart urban furniture, Cloth Sharing System, Smart Kiosk, Product democratization, Trickle-down theory

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