

Development of Optimized Eye Mascara Packages with Bioinspired Spiral Methodology

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Abstract : In the present days, packages are considered a fundamental element in the commercialization of products and services. A good package is capable of helping to attract new customers and also increasing a product's purchase intent. In this scenario, packaging design emerges as an important tool, since products and design of their packaging are so interconnected that they are no longer seen as separate elements. Packaging design is, in fact, capable of generating desire for a product. The packaging market for cosmetics, especially makeup market, has also been experiencing an increasing level of sophistication and requirements. Considering packaging represents an important link of communication with the final user and plays a significant role on the sales process, it is of great importance that packages accomplish not only with functional requirements but also with the visual appeal. One of the possibilities for the design of packages and, in this context, packages for make-up, is the bioinspired design - or biomimicry. The bio-inspired design presents a promising paradigm for innovation in both design and sustainable design, by using biological system analogies to develop solutions. It has gained importance as a widely diffused movement in design for environmentally conscious development and is also responsible for several useful and innovative designs. As eye mascara packages are also part of the constant evolution on the design for cosmetics area and the traditional packages present the disadvantage of product drying along time, this project aims to develop a new and innovative package for this product, by using a selected bioinspired design methodology during the development process and also suitable computational tools. In order to guide the development process of the package, it was chosen the spiral methodology, conceived by The Biomimicry Institut, which consists of a reliable tool, since it was based on traditional design methodologies. The spiral design comprises identification, translation, discovery, abstraction, emulation and evaluation steps, that can work iteratively as the process develops as a spiral. As support tool for packaging, 3D modelling is being used by the software Inventor Autodesk Inventor 2018. Although this is an ongoing research, first results showed that spiral methodology design, together with Autodesk Inventor, consist of suitable instruments for the bio-inspired design process, and also nature proved itself to be an amazing and inexhaustible source of inspiration.

Keywords : bio-inspired design, design methodology, packaging, cosmetics

Conference Title : ICBBE 2018 : International Conference on Biomimetics and Bionic Engineering

Conference Location : Vienna, Austria

Conference Dates : June 14-15, 2018