

IN-HAND MOTOR SKILLS AS A STARTING POINT IN DESIGNING FASTENERS FOR TEXTILE PRODUCTS

The purpose of this thesis was designing a fastener for textile products in which hands fine motor skills will be the main focal point. The direct impulse to take up this subject has been the analysis of fasteners applied on coats that were introduced into production in Click Fashion, a clothing company. There were some inconveniences spotted in their usage, which made me analyse the question more thoroughly. The aspects related to the movement and the look from the user's perspective, their experience, set a direction for searching new possibilities in planning usage scenarios and the ways of fastener implementations.

Dissertation is composed of three parts. The first one, titled: 'Fasteners – the microcosmos of fashion' in which an in-depth analysis of fasteners existing in the market was performed, constitutes the framework for the course-book directed to fashion designers, students of design, apparel producers and people keen on design. Fasteners mean emotions, cultural codes, nonverbal message enclosed in a small form. Semantic analysis, historical, associative, technological, economical and production related aspects, allow us to understand better the content accumulated in them as well as consciously use them in fashion design. In the second part, 'Hand – the phenomenon of biomechanics' the issues related to functional anatomy of hand were analysed, together with in-hand motor skills and ways of examining movement, grasp and manipulation. This knowledge is indispensable to understand the essence of the problem and to state the methodology of studying it. This expertise was used to construct studies in third part, titled 'The O-HO-OK project'. In the first study – qualitative, the analysis of hand movements was conducted on the basis of photo-materials recorded whilst fastening and unfastening chosen closures. In

the evaluation measurable parameters were used, e.g. the time span of the task and the number of grasps employed, the comparison of hand spatial structure and its trajectory. In purpose of triangulation another was done, the quantitative one, in the form of a survey examining respondents experience of fasteners use was carried out. The usage features of fasteners were studied, like the difficulty of their fastening and unfastening, reliability and fixability. The gathered conclusions served to formulate design assumptions and consequently five different solutions were proposed, out of which one was chosen for prototyping. The final design consists of eight components that give a lot of configuration possibilities. In the designed fastener an original solution related to implementing in textile products was put forward. Prototypes were produced in technology of 3D printing, and afterwards – they were applied in clothing collection dedicated to Click Fashion brand. The new closure was subject to comparative analysis together with all already existing solutions in qualitative study. High scores prove that it is the appropriate answer to market's and consumer's needs.

The presented solution is not only a product ready for manufacturing, but also the open design that fits into trends in contemporary design, like longevity. The QR code, enabling printing the fastener for personal needs, can prolong a textile product life span. Pro-social and pro-ecological approach in designing, in the spirit of which the design was created, sets new perspectives in fashion industry development and its future.

The key words: fasteners in textile products, in-hand motor skills, movement studies, fashion, design.


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