# RETROFITTING CLOTHING PRODUCTS USING INTERACTIVE DIGITAL ELEMENTS

## CAZAC Viorica[1], CUCERENCU Marin[2]

[1] *Technical University of Moldova, Faculty of Light Industry, 2045, Kisinau, s. Sergiu Radautanu 4, bl.11 E-Mail1:vioricascobioala@gmail.com*

[2] *Technical University of Moldova, Faculty of Light Industry, 2045, Kisinau, s. Sergiu Radautanu 4, bl.11 E-Mail2: marincucerencu@me.com*

Corresponding author: Cazac Viorica, E-mail: vioricascobioala@gmail.com

*Abstract: Interest in information technologies makes also the clothing field to concern about upgrading trough IT implementation not only at the level of organization and management of design processes, planning manufacturing, but also direct using of them with aesthetic implications in visual perception.*
*Interactive elements widely used in the III-rd millennium's editions – e-books, electronic magazines, etc. may be applied with success also in clothes.*
*As starting points for implementation of digital interactive elements on clothing products are analysis of fashion trends 2014-2015 considering recommended colors, aesthetic stylistic peculiarities: forms, lines, contour, decorative elements; materials and aesthetic characteristics: surface, touch, drawing subject, dimensions, assessment of personalization's expectations of a group formed from 15 young girls passionate fans of modern technologies. In order to materialize their expectations, aesthetic and technological solution of interactive digital elements capable to be embedded in clothes was realized with the platform Adobe Digital Publishing Suite.*
*The survey results confirmed initial hypothesis that interest in upgrading the clothes is high, especially for age of 14-35 years. According to the results, were developed several projects of clothes with interactive elements, attention being paid to conceptual and aesthetic solutions.*
*Digital interactive elements applied on clothing products ensures a wide range of aesthetic solutions provided by a single product and their compliance with the occasion of wearing, may realize not only aesthetic functions, but also cognitive, informative, protective. Interactive elements may be placed in any zone, both main and small, decorative items. E-dress is one of the guidelines of the future offered to users.*

*Key words: Digital interactive elements, personalization, aesthetic stylistic peculiarities.*

## 1. INTRODUCTION

Interest in information technologies makes also the clothing field to concern about upgrading trough implementation of IT not only at the level of organization and management of design processes, planning manufacturing, but also direct using of them with aesthetic implications in visual perception.

Interactive elements widely used in the III-rd millennium's editions – e-books, electronic magazines, etc. may be applied with success also in clothes, excluding the necessity of carrying notebooks, digital tablets. Integrating interactive digital elements in different parts of the clothing can provide multifunctionality of clothing products.

The **study objective** is to identify possibilities of applying digital interactive elements on clothing products.

## 2. UPGRADING CLOTHING PRODUCTS THROUGH DIGITIZATION

Product development of smart clothing is not only fabrics performances, embedded means such as sensors incorporated for providing and maintaining the temperature of the human body, treating various chronic diseases, etc. Aesthetic aspect, especially for clothing products is as important as their functional properties. Because the objective of this study was not limited to the clothing aesthetic diversification through digital interactive elements, but also to ensure the possibility of information, access to Internet communication media, first it is necessary to identify aesthetic features as the current fashion trends (Fig.1-4).

### Fashion trends for the period 2014-2015

#### Chromaticity [17]



*Fig. 1: Chromatic range recommended for the period 2014-2015*

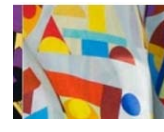#### Offered prints [18]
*Geometric prints*



| Stella Jean | Emma Cook | Tods | Prada | Chanel |

*Prints with curves*



| Samuji | Ache Studios | Marc Jacobs | Guy Laroche | Rachel Comey |

*Plaid prints*

*On red*                                            *On black*



| Marc by Marc Jacobs | Missoni | Vivienne Westwood | Marissa Webb | Comme des Garsons |

*Ornamental print*

*vegetal ornament*                                   *eclectic*
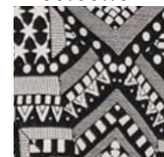


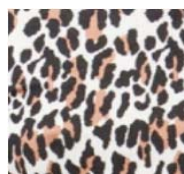| Christophe Lemaire | Osman | Emma Cook | Mara Hoffman | Versus Versace |

*Prints of flora and fauna*

*animal print*

| Balmain | Wren | Tom Ford | Giambattista Vall | Gucci |

*floral motives*

*red on black*                                         *flowers in the night*

| Erin Fetherston | Dolce & Gabana | Honor | Escada | Sonia by Sonia Kykiel |

*Macroprints*

*mountains and trees*                                     *Cartoon characters*

| Ostwald Helgason | Peter Pilotto | Tracy Reese | |Red Valentino | Moschino |

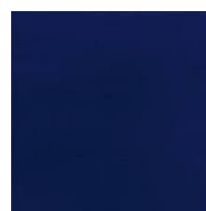***Fig. 2:** Prints recommended for the period 2014-2015.*

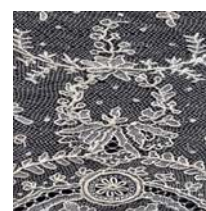The types of materials recommended for the period 2014-2015 [18-19]

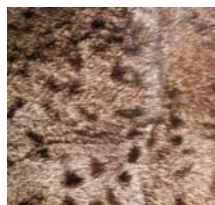| Tweed | Mohair and angora | Classic velvet and corduroy | Laces |

| Fur | Latex type waterproof fabrics | Black leather | Volatiles (chifon-veil) |

***Fig. 3:** The types of materials recommended for the period 2014-2015.*

Forms of clothing products [17]



| Stella Jean | Comme des Garsons | Dolce & Gabana | Rachel Comey | Duru Olowu |

***Fig. 4:*** *Forms of clothing products.*

## 3. MATERIALS AND METHODS

In order to analyze the personalized expectations a questionnaire was developed which lists topics with reference to the carriers' passions, their predilection to suggest the priority concerns through clothing, young people's attitudes to the possibility of digitization clothing products, placement of interactive elements in product [1-16]. The survey extended only to a group of 15 young people shows a greater interest in clothes with interactive elements. Digital interactive elements were developed using platform Adobe Digital Publishing Suite and embedded in dresses items as additional elements.

## 4. RESULTS AND INTERPRETATIONS

The survey results confirmed initial hypothesis that interest in upgrading the clothes is high, especially for age of 14-35 years. According to the results, were developed several projects of clothes with interactive elements, attention being paid to conceptual and aesthetic solutions.

Application Adobe Digital Publishing Suite has enabled the development of additional interactive elements shown in Figure 5-7. Interactive elements works like digital tablets. They have stored in its library required information useful to wearer and they are able not only to provide useful information but also to shape the items surface, to boost the running image, to replace an image with another both chromatic and conceptual.

Possibilities offered by the interactive digital elements are manifested by:
   • spread of interactive digital content;
   • create publications without restrictions and without file size limits;
   • create applications for different platforms (Android ™, iOS и QNX);
   • monetization payment systems applications stores - sales numbers and special editorial edition subscriptions (Apple App Store, Android Market, BlackBerry App World);
   • access to analytical reports information via the Digital Publishing Suite;
   • integration with Adobe Online Marketing Suite (Adobe SiteCatalyst ®) based on Omniture ® technology;
   • integration with multi-platform advertising (Medialets).

**Fig.5:** *Digital element specialized in a specific area with embedded 3D element: medicine, fashion, mathematics etc.author:Marin Cucerencu*



**Fig.6:** *Functional digital element with embedded slideshow element, author: Marin Cucerencu*



**Fig.7:** *Digital element with embedded video, author: Marin Cucerencu*

## 5. CONCLUSIONS

- Digital interactive elements applied on clothing products ensures a wide range of aesthetic solutions provided by a single product and their compliance with the occasion of wearing, may realize not only aesthetic functions, but also cognitive, informative, protective.
- Interactive elements may be placed in any zone, both main and small, decorative items.
- E-dress is one of the guidelines of the future offered to users.

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