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USING THE NECKTIE UPCYCLING METHOD IN FASHION DESIGN

Purpose. *The methods of upcycling in clothing design.*

Keywords: *sustainable fashion, upcycling, fashion design, customization, 3D prototype.*

Setting the task. Creation of a modern collection of women's youth clothing according to the principles of Sustainable fashion under the motto "Color fusion".

Methods of research. The comparative and analytical apparatus of pre-project studies is used; system-informational and visual-analytical methods of research, as well as the method of 3D prototyping.

The object of the research is the process of upcycling as a new design principle for circular fashion. The research subject is innovative technologies at the stages of designing clothing with increased aesthetic properties due to the use of neckties.

Introduction. Upcycling is the art of transforming garments at the end of their lifecycle into something new and appealing by applying noticeable aesthetic changes [1]. Modern designers create digital 3D models of products and experiment with various designs without creating a physical prototype [2, 3, 5]. For the consumer, the use of these technologies dramatically simplifies the process of choosing a product and receiving a purchase, saves time, and allows for imagining more accurately how the clothes will look in reality.

Results. The issue of recycling waste in the fashion industry is becoming more and more relevant [1-5]. Analyzing existing methods of upcycling fashion industry products allowed us to identify the ecological, artistic and aesthetic advantages of clothing made from recycled materials [1-5].

This study aims to set an example of how fashion designers can sustainably design and manage their clothing design processes by recycling textile production scraps and using neckties in unique clothing designs with the upcycling method. The materials used in this study are neckties.

The upcycling process in this study is described in stages: sourcing, sorting of used men's neckties, deconstructing of used men's neckties, developing designs for an original collection, 3D prototyping of the garments, and manufacturing clothing models.

The authors used neckties and turned them into corsets, dresses, blazers, and shorts designs using creative techniques in line with current 3D fashion trends.

The upcycling clothing can alter its appearance by adding decorative trims or appliques. On the other hand, one can fully deconstruct a used garment, design new components, and create an entirely different piece of clothing for a new purpose.

To visualize the original ideas, 3D prototypes of clothing were developed, enabling accurate simulation of the neckties' fabrics and textures and the behavior of materials, allowing experimentation with various shapes and garment styles [4, 5].

Customization in CLO 3D is an effective tool for creating unique clothing that matches each consumer's shape, style and taste. "Virtual fitting" technologies make it possible to assess the fit quality, adjust clothing sizes, and change styles in real-time. For customers, virtual visualization allows them to see how the clothing will look on them, facilitating more thoughtful suggestions for improving the design, if necessary. The uniqueness of upcycled fashion and textile products is a key factor in customers' purchasing decisions. Based on the research results, three-dimensional models of the author's collection of sewing products were created in the context of circular fashion, namely a shorts, and a corset, which reflected the individual style and preferences of the target consumer, Fig. 1.

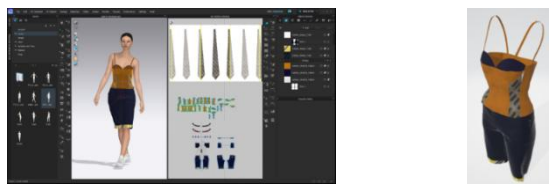


Fig. 1. 3D prototype and digital sketch of corset and shorts with used neckties

Prototyping is an integral part of design thinking and user experience design because it allows us to test our ideas quickly and improve on them equally timely [5].

Design ideas for the original collection emerged from thoroughly analyzing the used men's neckties' **materials, colors, and patterns**. The design possibilities were limited by the neckties' size and the fabric type. As a result, the pieces in the original collection feature various ways of using and combining men's neckties.

The central model of the collection - a dress and one of the waistcoats - is made entirely of men's neckties, while other items of clothing contain individual elements of men's neckties, Fig. 2.



Fig. 2. a) The source of inspiration for the study are used neckties;
b) A photo of corset and shorts on a mannequin with used neckties;
c) Testing the design models of the collection on the consumer

Conclusions. The study examined the upcycling process of men's neckties used by the Department of Technology and Garment Design students. The results demonstrate that recycling textile waste and creating products that can be accepted as new fashion items requires practical problem-solving skills, high-level design thinking, creativity, a deeper understanding of fabric properties, proficiency in computer technologies, and 3D modeling skills.

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