

DEVELOPMENT OF CONCEPTION OF THREE-DIMENSIONAL DESIGN OF CLOTHES

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At the current stage of development of the garment industry new industrial paradigm of designing and manufacturing of clothing has been formed – the transition from two-dimensional to three-dimensional designing of clothing. Designing of clothes on a base 3D programs becomes a main alternative to the traditional designing of models and estimation of quality of sewing wares [1-4]. Among modern CAD-system of clothes is selected the programs of the two- and three-dimensional designing. The programs, realizing technology of designing of 2D in 3D, enable visualization of clothes on the electronic mannequin of human figure. The programs of 3D in 2D foresee development of three-dimensional appearance of clothes in the prepared templates, but this direction today not enough developed. The analysis of the programs of technology of 2D in 3D rotined the sufficient level of their development and realistic of the models. Considered and executed comparative analysis of the modules of Runway Designer (Optitex, Israel), V-Stitcher (Gerber Garment Technology, USA) and program JULIVICLO3D (JULIVI, Ukraine) [5], providing possibility of visualization of clothes on the electronic model of figure of human figure. Analysing possibilities of the considered programs we are do a conclusion, that most expedient are the programs of hybrid type, realizing technology of 2D in 3D with the subsequent design of clothes in three-dimensional space.

Technology of three-dimensional design of clothes foresees transformation of templates of base construction of clothes preliminary developed by all means to three-dimensional appearance of model after the task of rules of their virtual «sewing» together on an electronic mannequin. Farther on three-dimensional appearance of model inflict the lines of articulation and compartments of surface of virtual model construction open out on a plane.

For development of the informative support of process of three-dimensional design of clothes the existent techniques of design were systematized and classification of decompositions of clothes is developed. Analysed and certain optimum, minimally necessary lines of decomposition and basic anthropometric points on the virtual mannequin of female figure, accordance of points is set on a model and base construction, the databases of methods of transformations of details of base construction is developed for a three-dimensional design on the example of female humeral clothing, the optimum sizes of transformations are found taking into account properties of fabrics. The prospect of further researches is development of the informative providing for the different types of clothes from different materials, determination of optimum sizes of transformation and study of mechanism of transformation for automation of process of three-dimensional design. The abovementioned

developed elements of informational support of the process of three-dimensional clothing modeling can be used in the development of 3D CAD software for designing of the clothes.

Key words: *three-dimensional design of clothes, CAD-system of clothes, the «mannequin-clothing» system, electronic mannequin, techniques of modeling.*

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