

Electronic Mannequin Innovation by Using Microcontrollers Technology

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Abstract:

The research problem is summarized in the difficulties that face the one who works on the mannequin while drawing the design on the traditional mannequin. Therefore, the research aims to create an electronic mannequin and develop it with microcontroller technology so that it helps reduce time and effort. The research aims to develop an electronic mannequin that helps in reducing the time and effort required for the process of forming on the mannequin by shortening the stage of drawing the guide lines and design lines on the mannequin before starting the process of forming with the cloth and also contributes to achieving the highest quality required for the accuracy of the lines on it, and it can also be used Through beginners because it does not require experience or high skill to use. The research methodology is the analytical descriptive approach with the use of the applied method, where the idea of producing a mannequin is based on placing LED lighting strips in lines that represent the guiding lines and some basic cutting lines that the mannequin user needs. These strips are assembled on an electronic and electrical circuit that can be controlled through a microcontroller (ARDUINO MEGA) programmed with special programming to control the appearance of the lighting lines. And hiding these strips for each line separately, which makes it contain many different designs by showing some optical lines and hiding others, through a mobile application (MOBILE APPLICATION) that was designed to connect to the microcontroller via a Bluetooth module programmed according to this microcontroller that is given to it commands to be executed. Sheets of transparent plastic material are used in the manufacture of mannequins in order to allow the appearance of electrical tape lighting and facilitate thermal formation to produce the vacuum forming. The proposed mannequin was judged by a number of professors specialized in forming on mannequins by means of a questionnaire to identify The quality of the mannequin in terms of its general shape and the quality of the lines drawn by the electrical tapes, also the quality of using the electrical circuit, as well as the strength and clarity of the lighting of the tapes. The most important results were the agreement of the arbitrators on the mannequin quality in terms of the material of manufacture, the proportions of lines and cuts, the intensity of lighting, and the method of operation. The research recommends conducting interdisciplinary studies dealing with the application of modern technology in the fields of applied and forming arts in general, and the field of fashion design in specially. And also suggesting the development of the electronic mannequin mechanically so that it is easy to adjust its size in order to suit the morphological reality of the body.

Keywords:

Innovation, , Mannequin, Electronic Mannequin , Technology , Microcontrollers

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