MACHINE DESIGN OF BATIK TULIS USING AVR MICROCONTROLLER BASED ON DIGITAL IMAGE PROCESSING

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ABSTRACT

Batik Tulis is one of the production processes of batik cloth which the process is done manually with a tool called canting. UNESCO has set Batik as the world cultural heritage from Indonesia. In 1945 Constitution of Republic of Indonesia, paragraph 1 of article 32, where the State have to promote national culture of Indonesia in the middle of the world civilization in order to guaranteeing freedom for its society to maintain and develop their cultural values.

As a support for government programs to preserve and protect the nation's culture, in this final project will be made a batik drawing machine. This machine works based on the data from the image coordinates of the image which is processed through PCs. The coordinates data will be sent to a microcontroller system to generate movement signals for stepper motors and servo motor. Stepper motors used as the x and y axis actuator, while the z axis servo motor mounted as stationery to draw.

From the design of the machine which has been created, the machine can draw batik pattern in accordance with the processed image image on the PC by replacing canting to a pencil, and the fabric replaced by a paper which have size 21.0 x 29.7 cm.

Keywords: Digital Image Processing, Microcontroller, Stepper Motor, Servo Motor
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