Kata kunci : Kain tekstil, Struktur, Pola, Statistika, Real-time, Preprocessing, Digital Mikroskop

ABSTRACT

Technology advancement in image digital processing has already hardly improved. Nowadays, digital image processing is as a main actor in many factors especially for textiles industrial factories. Fabric textiles is one of the most important human needs which recently has some particular mistakes in fabrication such sore hole and error fabric repletion. However, this system control is still processed manually and inefficient.

This final project is aimed to implement and design fabric damage detection system which has good accuracy and work fast as a real-time system. Based on its theory, textiles have various kinds of textures and periodic pattern which become their characteristic themselves. To analyze and difference those conditions of fabric - good and bad - it needs detail information from textures image observation. Furthermore, this system also uses *microscope digital* Dino-Lite 211 which can give 100-200 focus of image. The result of observed image from digital microscope then we have textures pattern which is named as structure of textiles. In order to have good accuracy and fast system, it needs to improve the quality of textile images which named as *preprocessing* .And then the system will classify based on its characteristic using statistic method.

This research has never been observed before. Therefore, this final project becomes a basic parameter for next observation with the same topic. Furthermore, this system can reach ± 75% accuracy. Training and tested image are shir, t-short, jeans, and curtains textiles which are mostly used by society ± 90%.

Keywords : Textiles, Structure Elements, Pattern, Statistic, Real-Time, Preprocessing, Digital Microscope.

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Penulis