

# Development of a Automatic Sewing Machine for Manufacturing of Cotton Gloves

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Key words : Automatic Sewing Machine, Cotton Glove, Image processing, Morphology algorithm

1. gloves), gloves), gloves) (driver's gloves), (coated gloves), (ceremony (industrial

가 가 1 가 20 가

가 가 가 가 가 가 가

2. 2.1 가

Fig. 1 800mm x 1500mm 가 , PC 900mm x 가

Host PC Host PC 3 Host PC 4

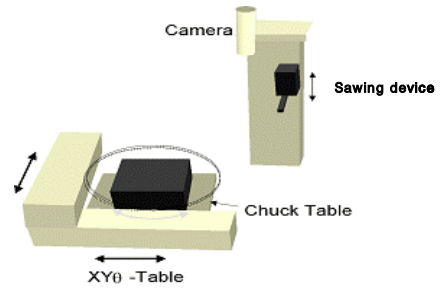


Fig. 1 Composition of automatic sewing machine

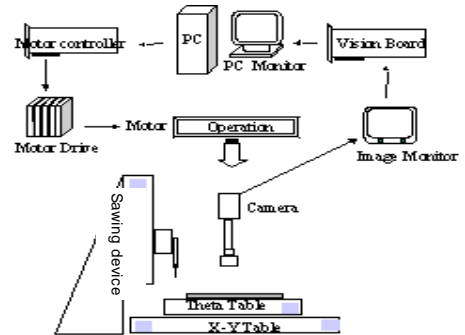


Fig. 2 Control diagram of automatic sewing machine



Fig. 3 Automatic recognition and moving system



Fig. 4 Control panel of automatic recognition and moving system

2.2

Fig. 3 X Y  
 , CCD  
 Z  
 3 /  
 . Fig. 4 /

Fig. 5

Visual C++

- (a)
- (b) (smoothing)
- (erosion) (binary) (c) (b)
- (erosion) 3,4
- (dilation) 가
- (d) 8
- (e)
- (d) 8

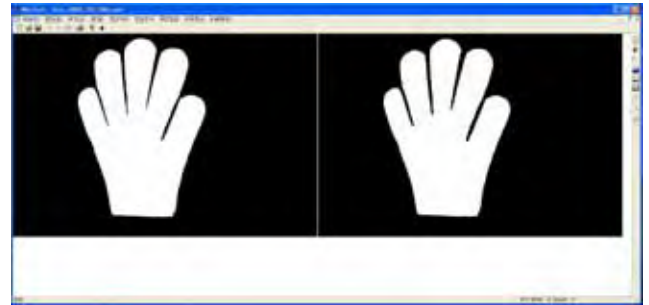
4.

5mm

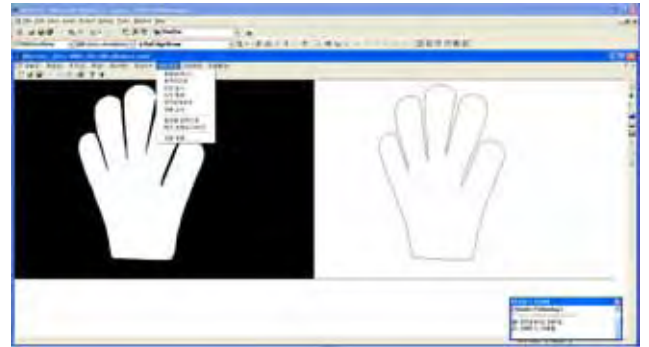
1. <http://www.niceglove.co.kr>
2. <http://www.songhaglove.co.kr>
3. , "Visual C++ 6 가 ,", 2001
4. , "Visual C++ ,", 2003.



(a) Input and preprocessing image



(b) Binary and erosion image



(c) Dilation image and result of edge extraction



(d) Result image after erosion of 8 times and edge extraction



(e) Original image and sewing line after erosion of 8 times and edge extraction

Fig. 5 Image processing process for automatic recognition and sewing machine