Development of CAD for Pattern Design, Grading and Nesting

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The objective of this research is to develop the CAD system package based on personal computer for automatic pattern design, grading, and nesting, utilizing the mathematical and computational principles.

The basic pattern designs of bodice, sleeve, skirt and slacks are obtained from the measurements of the physical data and to the input of the patterns.

After drawing the basic patterns, it is designed to execute the other application programs which modifies the patterns to proper formand drawings of margins, marks, holes and notches.

Grading, the step of the magnification or reduction for variable size, is also automatically performed from the original patterns.

In the nesting process the patterns are arrange to minimize the losses of textiles by the transformation sub-programs, used to reposition the items in the pattern data base. Thus it automatically calculate the amounts of loss from nesting database.