



ELECTRONIC ORDER FORM FOR SPECIAL MEASUREMENT MILITARY UNIFORMS: A TEST CASE FOR MASS CUSTOMIZATION

Nancy J. Staples

Clemson Apparel Res., Pendleton, SC 29670

The objective of this project was to improve the quality of information provided to manufacturers of special measurement (SM) uniforms for the U.S. military, thereby expediting the assigning of sizes and/or alteration of patterns for manufacturing.

A Web-based Electronic Order Form (EOF) was created as an on-line method of ensuring that the information needed for processing military SM orders is complete, accurate, and does not require further manual input. Recruit Induction Center personnel, branch clothing personnel, and manufacturers of military uniforms were consulted to determine the optimal set of body measurements needed to produce well-fitting garments.

For body dimensions, clear verbal descriptions of body measurements, where to take measurements on the body, and how to take measurements on the body were written in lay terms. Accompanying graphic illustrations were created. Verbal descriptions and graphic illustrations were tested for clarity with high school and college students, reviewed by military personnel, and revised, as necessary. A video of proper measurement procedures was developed. Web-based software was developed to record order information, display how to take body measurements, display video instruction, validate the feasibility of each body dimension (using min/max criteria), validate combined body measurements (using statistical analysis), summarize each order, and transmit the order and measurement information. EOF has been combined with custom-developed size selection software and off-the-shelf CAD software to create a fully automated system to produce cut-files for the production of special measurement shirts.