



FEMALE FIGURE IDENTIFICATION TECHNIQUE (FFIT) FOR APPAREL PART II: DEVELOPMENT OF SHAPE SORTING SOFTWARE

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ABSTRACT

Sizing standards used in the United States that identify the body measurements used in the design and development of clothing were established from identified "best practices" of the apparel industry. However, the industry as a whole has not adopted a single system of clothing sizing. We know that manufacturers and retailers use their own sizing systems as a marketing tool, convinced that this is a differential advantage of their product for their market. Regardless of the sizing systems used, however, almost all are based on the myth that humans have mathematically proportional bodies and that they grow in proportional ways. In addition, the shapes and proportions of today's American population differ greatly from the shapes of the generations before. So a variety of issues impact our inability to 'fit' the American customer of today. These fit issues continue to be a growing concern.

Mass customization methodologies appear to provide a "solution" by allowing customized fit of apparel. A significant underlying problem exists, however, when attempting to alter a garment for fit based on one standard shaped garment product. "Extreme" alterations seldom provide the desired fit in the final garment. This discovery has led us to understand that optimal customization can only occur if customization starts from the most correctly shaped garment for each customer's "figure type". Thus a system was developed to identify female figure types using 3-D body scan data. This article, as Part Two of two, describes the process involved in the development of an expert shape sorting system using 3D body scan data. This software will enable the identification of personal body shapes, allowing the use of the most correctly shaped garment for the customization procedure that will better ensure satisfactory fit of the final garment.

Keywords: FFIT for Apparel, shape sorting, sizing standards, mass customization, fit, female figure types

Introduction

Currently, clothing sizes are based on a biased study that is over 6 decades old. This method of sizing does not conform to the diversity of human shapes that currently exist in the United States. Attempts to classify body shapes into analogous types, in

order to establish size standards, have resulted in the formation of several size groupings.

Additionally, the shapes and proportions of today's American population differ greatly from the shapes of the generations before. Because the clothing