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## Keywords

Parametric pattern-making, a constructive approach, geometric constraints, constraint graph, dimension-driven, garment CAD

## Introduction

Most of today's customers have a strong desire to personalize the style, fit and color of the clothes so that mass customization has become a new design and manufacturing trend. Mass customization is a hybrid of mass production and customization. On one hand it satisfies the individual measurements and styles of customers, on the other hand it accommodates the industrial production and competition in apparel industry.<sup>1</sup> That is to say, mass customization provides customers with personalized clothes at lower price, higher quality and faster delivery.

The practice of mass customization is achieved by the combination of the advanced automatic and computerized technology with the experience and management of industrial apparel production.<sup>2</sup> Conventional CAD technology, which is based on the use of the standard body measurements, can shorten the product development cycle, improve product quality and respond more quickly to the customer market in mass

production. However, it can't produce accurately fitting clothes for individual customers. Made-to-measure (MTM) technology is regarded as a part of mass customization because it allows styles to be produced repeatedly and instantly with the mass production rate.

MTM technology involves the following approaches: conventional grading technique, pattern generation based on artificial intelligence, pattern layout, cutting, sewing directly from individual 3D apparel models and geometric design.

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