

# Digital Convergence in IT and Fashion: i-Fashion

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## Abstract

Recently, the fashion industries have changed into knowledge-creation industries of intensive high values through the upgrading and differentiation of designs, brand marketing, utilization of hi-tech materials, the development of advanced functions, and so on. i-Fashion is aiming at ubiquitous and personal fashion world through digital service and mass customization into the IT and fashion industry. These 3D body measuring technologies of i-Fashion are expected to be utilized not only in the clothing and fashion industry but also in diverse other areas including medicine, diet, car, furniture, sports and leisure, animation, game, and education. In this study, we introduce the concept and commercial implementation of i-Fashion.

**Keywords:** i-Fashion, digital service, mass customization

## 1. Introduction

Convergence between traditional industries and IT technology is one of today's remarkable trends, and technological innovation implementing the concept 'ubiquitous,' which means accessibility to the network at any time and in any place, is exerting influence on various industries. Along with this trend, past manufacturer-centered mass production systems are being changed to consumer-centered mass customization and made-to-measure (MTM) production systems [1].

'i-Fashion' means manufacturing process, production, sales (marketing), market and textile and fashion products created through the fusion of textile and fashion technologies and information technologies. It means, firstly, consumer-oriented Fashion centering on 'I' and, secondly, the fusion of IT and Fashion.

Accordingly, the i-Fashion Technology Center aims to realize new high added values of the fashion industry through 'digital fashion service' and 'mass customization' by introducing the two keywords 'ubiquitous' and 'personalization' into the fashion industry through fusion between fashion and IT. In particular, digital service and mass customization suggest the vision for promoting fashion shopping as a fusion culture [2].

## 2. i-Fashion Technology

### 2.1. Digital Fashion Service

In ubiquitous shopping era, customer will buy clothes through various distribution channels including internet (e-Commerce), mobile (m-Commerce), and D-TV (t-Commerce) as well as digital stores. For ubiquitous shopping, shoppers would create a virtual image, or avatar, by recording the exact size and shape of their figure, including height, length of arms, and legs, as well as the size of the waist, hips, and thighs. The digital fashion service enables a shopper to try on any item in the virtual shop and get it custom-fit.

A virtual shop measures the consumers' body using 3D body scanners, analyzes their body size and shape, and generates reports. The anthropometric data are used to create a digital virtual human, and consumers can see their virtual body on a virtual mirror in the offline store or on a digital screen in the online store and try virtual garment on the body for evaluating the fitness and appearance. In the near future, furthermore, consumers will be able to shop at any time and in any place using digital devices including the Internet (e-Commerce), mobile devices (t-Commerce), and D-TV (t-Commerce) (Fig.1).

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Fig.1. Digital fashion service for apparel shopping.

## 2.2. Mass Customization

Mass customization in fashion is truly consumer-oriented and customized on-demand mass production. Consumers can choose various options such as design, color, material, detail and length as they want, and try on virtual garment generated based on the chosen options. Also, through the use of precise body measurements and personalized avatars, a shopper can select fit clothes that she can put on in a virtual environment. Fig.2 shows 3D modeling, virtual reality, and display technologies using mass customization systems in apparel shopping.

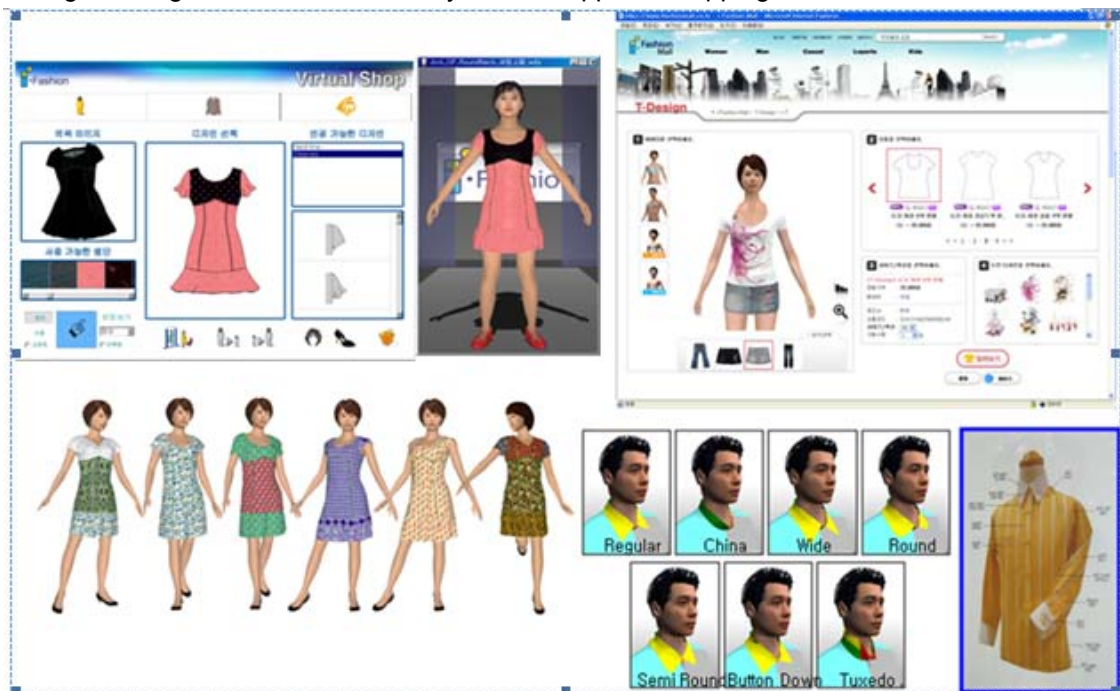


Fig.2. Apparel shopping using mass customization system.

### 3. Commercialization of i-Fashion technologies in the clothing industry

i-Fashion has developed 3D digital virtual avatar implementation technologies through joint research with domestic clothing and fashion companies, distributors, etc. It showed successful cases of commercialization of information technologies in the clothing industry including 3D technology, virtual try-on technology for clothing and fashion products, RFID communication technology for logistics/distribution, and digital textile print technology for mass customization. Among the cases of commercialization through the application of i-Fashion technologies in the clothing industry, Shinsegae installed i-Fashion digital stores together with 'ELORD' of FnC Kolon in August 2007, and the 'FUBU' stores of Samsung Fashion provided 'digital fashion services' using i-Fashion technologies. As an online Internet shopping mall, iFashionMall ([www.iFashionMall.co.kr](http://www.iFashionMall.co.kr)) shopping mall was opened and operated since 2007.

In addition, i-Fashion entered into MOU with the Korean Air Force and is manufacturing and supplying not only customized uniforms but also customized pilot's gloves using i-Fashion technologies such as 3D digital avatar technology, 3D body scanner technology, customized clothing technology (Made-to-Measure), information service technology and mass customization technology. In the future, 'digital fashion service' projects based on such i-Fashion technologies will be expanded continuously (Fig.3).

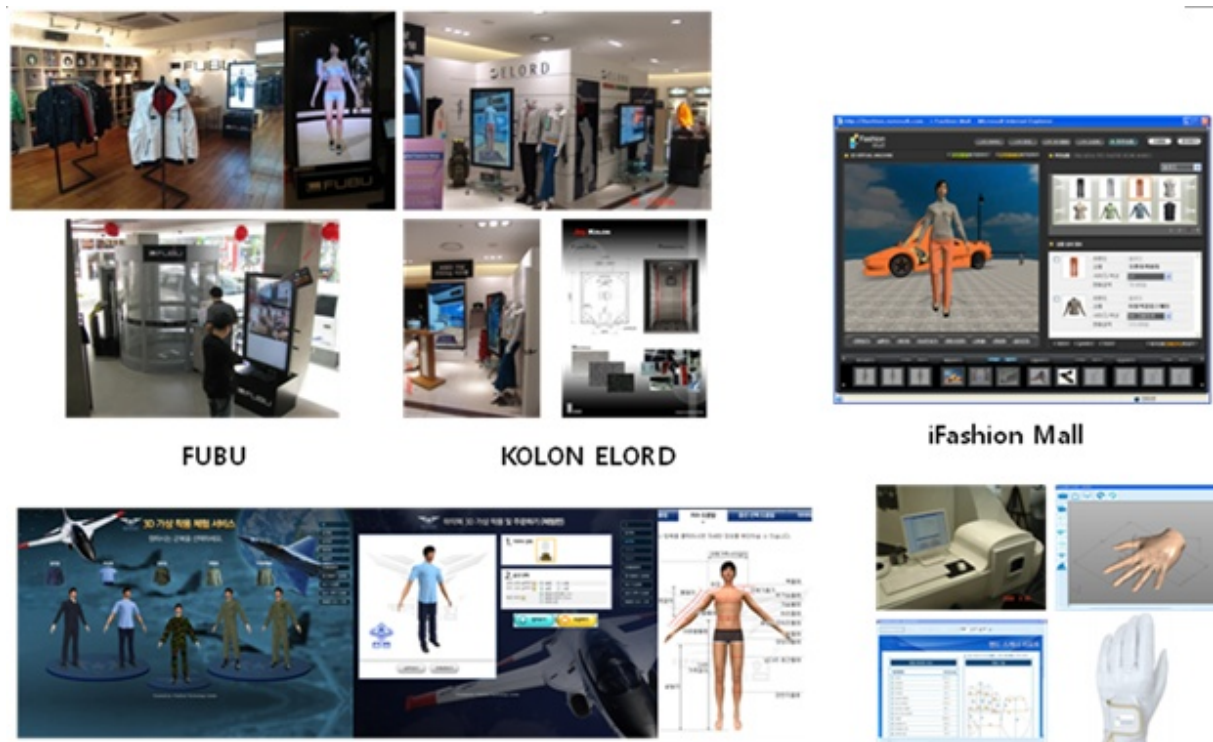


Fig.3. Commercialization of i-Fashion technologies in the clothing industry.

### 4. Conclusion

i-Fashion was born to cope with environmental changes and consumers' needs by utilizing IT in fashion and clothing products. The goal of i-Fashion is to create the new values of clothes by introducing 'digital fashion service' and 'mass customization' into existing values like brand, design, etc.

These 3D body measuring technologies of i-Fashion are expected to be utilized not only in the clothing and fashion industry but also in diverse other areas including medicine, diet, car, furniture, sports and leisure, animation, game, and education.

### References

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