

# Application and Vision of the 3-D Measurement System in Universal Fashion Design

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## **1. Introduction**

Meet on period request that IT development and globalization are taking in 21C, fashion and a clothes manufacture technology are doing sudden change. Purposing the systematization of clothes design, 3D human body measuring instrument development that solid reappearance of human body is possible because it was already begun its development in advanced nation of Japan and America from late 20th century. Especially, Japanese Miyoshi published a lot of papers about information acquisition and practical use of height and horizontal section shape that used sliding gauge by two-dimensional method by contacting with cooperation project participation for 3D human body measuring instrument development. Thus, report on two-dimensional information practical use supplies important basic data that acquires 3D information and present theoretical methodology that utilizes, and understands 3D.

Such real condition much information acquisition by 3D human body measurement is possible. Development of measuring instrument by necessity of 3D measurement gradually more embodiments is changed, and reported some reports about the partial practical use. Data used in this report is that measured by 105 Korea women using Non-contact 3D measurement instrument placed in Bunka Women's University, Tokyo, Japan. Data used directly in this report is horizontal section shape as the theoretical background among 3D data of 105 people and used all directions relation with horizontal section shape and height of each region.

Main purpose of this reach is that provides basic research for developing the order made body for individual which utilized 3D data and gives some investigation about the practical use of 3D data. Specially, it is our maximum purposes that wish to supply basic data for universal fashion design that the problem which came from physical characteristic and the problem which came from body type.

## **2. Methods of the study**

### **2-1 Measuring methods**

3D measuring instrument used in this study is device that NEC develops, and it can

measure maximum 400 sections for about 4 minutes be. Scanned information enabled solid figure nursery seeding evil of section that Miyoshi develops itself, and round and item that need in clothes design such as measurement of region calculation and tangent angle of each section did measurable, and it is information that form so that can be used that grasp the nearest corporal punishment in human body clothes design and human body.

## **2-2 Target person and target section**

Among much 3D data, among 105 20 Korea adult women of subject person of this study, girth of the chest chose big, middle and small 3 people

## **2-3 Choosing target person's section**

Among 3D data of selected 3 target persons, choose section on main part that estimate to need to make the order made body and displayed its horizontal section shape of solid view elevation and side view elevation. Among grasped 3D data, choose main section that needed in body design and displayed horizontal section shape.

## **2-4 Former and rear relationship of the horizontal section**

Former and rear relationship is measured by X-axis and Y-axis as basis axis to reconstruct displayed section. Measuring of former and rear relationship can become important basic data to attempt reconstruction of 3D of the shape.

## **2-5 Reconstruction of order made body for individual use**

Used styrol with thickness, we produced large, medium and small chest model which is utilizing horizontal section shape, height and bust girth size.

## **3. Results and expectations**

In this study, manufactured order made body that take advantage of information of elevation solid view elevation, side view elevation etc.. to use 3D human body measurement and sees by girth of the chest.

There is large sense that such results presented theoretical unfolding and manufacturing process for order made body design from 3D data. Comprehension about order made body manufacturing process is basic data for quantification of 3D data. Also, it previewed possibility of order made non-sewing knit manufacture that use 3D data. In other words, it is considered that fit by sense of the times that is 21C and became basic research that presents new condition that is correct in universal fashion.

Forward subject wishes to study continuously for systematization of Korean's order made body manufacturing as a part of practical use of 3D data that is based on theoretical background.

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