

Potential Application of Temporal 3D Body Scanning Techniques to Ergonomic Design

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ABSTRACT

Objective: The aim of this study is to introduce temporal 3D body scanning techniques and address their potential application to ergonomic product design. **Background:** 3D scanning techniques have been widely used for anthropometric product design. Static 3D images of human body can be captured by 3D scanners for anthropometric measurement of body dimensions for product design. However, 3D scanning techniques have become insufficient in designing products that require dynamic anthropometric data. **Method:** This study surveyed 3D and temporal 3D scanning techniques, compared their differences, and provided case studies of potential application of temporal 3D scanning techniques to ergonomic product design. **Results:** The temporal 3D scanning techniques can capture body motion other than a static body posture compared to 3D scanning techniques. For design of products such as sportswear to improve athletes' performance, temporal 3D scanning techniques are preferred. **Application:** The results of the present study might bring revolution in product design industry.

Keywords: Temporal 3D scanning techniques, Ergonomic design, Sportswear, Body motion