Columbia Technology Ventures

Computer-Aided Interactive Design of Garments Using 2D Patterns and 3D Models

Technology #m11-040

The garment design process involves multiple iterations when it comes to ideation, designing and revisions, which consume a significant amount of time and money. Recently, computer applications are being used to predict the three-dimensional shape of the garment in a virtual environment before experimenting with real cloth. This technology is an application that allows interactive garment modeling and editing for 2D garment patterns and their corresponding 3D models. By eliminating the need for manual alterations, this software may make garment designing more time and cost efficient.

Real-time garment designing for synchronous 2D and 3D simulations without manual alterations

This technology makes the design of both 2D patterns and their assembled 3D shapes interactive in real-time by using sensitivity analysis to achieve real-time feedback while rendering detailed 2D and 3D model simulations. Realistic results in design applications are realized through unique algorithmic modeling of cloth characteristics, linear membrane simulations, contact modeling, stitch modeling, and kinetic damping (for form finding).

Lead Inventor:

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Applications:

• Fashion and textile industry
• Upholstery designing
• Industrial animation
• Medical device designing

Advantages:

• Makes it possible to explore design possibilities while also incorporating real cloth behavior.
Designers can continuously visualize and predict their 3D results.

**Patent information:**

Patent Pending (WO/2012/061834)

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**Inventors**

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