COLLABORATIVE, REAL-TIME VIRTUAL PROTOTYPING FOR THE GARMENT INDUSTRY

design area and real-time 3D virtual prototyping. A fourth section covers collaborative aspects of the production workflow aggregated in one platform.

This new virtual process allows combining the single functional blocks dynamically, staying compatible with established production processes. At this point, the FFD collaboration platform not only handles the review and evaluation of the developed prototypes, but gives control over the complete garment manufacturing workflow.

The high flexibility of the system allows achieving new business and production workflows showing new ways for efficient and highly adaptive garment manufacturing. The time to market for the creation of a new garment is reduced by a factor of 10. At the same time garments can be reviewed in virtual space both in real-time and in a higher than ever detail.

CONTACT

COORDINATOR:

Dr. Jörn Kohlhammer
Fraunhofer IGD
Fraunhoferstrasse 5
64283 Darmstadt
Germany

E-mail: joern.kohlhammer@igd.fraunhofer.de
Phone: +49 6151 155-646
Fax: +49 6151 155-139
Website: www.vis-sense.eu

PARTNERS:

Fraunhofer IGD
ATC Athens Technology Center
ScotWeave. ScotCadTextiles
Human Solutions Assyst AVM
Piacenza
Consitex S. A. Ermenegildo Zegna Group

Seventh Framework Programme

FFD
FUTURE FASHION DESIGN

COLLABORATIVE, REAL-TIME VIRTUAL PROTOTYPING FOR THE GARMENT INDUSTRY

COLLABORATIVE, REAL-TIME VIRTUAL PROTOTYPING FOR THE GARMENT INDUSTRY

To stay successfully in business, textile and clothing companies nowadays need to be able to release new fashion collections in less and less time. However, the product development represents a bottleneck, since several physical samples have to be developed to judge the design. This is both costly and time consuming. Virtual prototyping (VP) can significantly reduce the number of physical samples which are necessary in the development process. However, its diffusion and efficient use in the industry is still low due to the inherent complexity of garment simulation.

Tailored to this market, FFD is a full scale virtual prototyping system covering the whole garment design process. Featuring a fully virtual production pipeline from fabric and garment design over interactive Virtual Prototyping to collaborative controlling and review of the virtual product, an agility level is reached which is unparalleled on the market. Thus, companies can more easily agree to special interests issued by the customer, granting a higher customizability.

Aside from higher flexibility towards customer requests, the virtual prototyping within FFD reduces the number of necessary samples for production. This increases the competitiveness of the textile and clothing companies in the market, while the system opens new market opportunities to vendors of CAD and PDM/PLM systems.

FFD is an EU-funded, focused research project involving six experienced partners from both research and industry, covering the whole garment production process from initial fabric to the final product. The framework was conceived and built by some of the leading researchers in the fields of visual analytics and network security. It incorporates the next generation tools to unleash the creativity of the designers in garment design with unparalleled speed in building the first proof of concepts.

TARGET GROUPS

Fabric Producers: FFD opens the opportunity to virtually preview fabrics due to a strong collaboration component. It allows direct feedback and discussion between the fabric producer and the garment designer giving better insights into both sides of a product.

Garment Producers: FFD opens the opportunity to develop the first prototypes of a collection entirely in a virtual prototyping environment. Speeding up the time to market enables the design group to skip and exchange parts of the production process, since FFD is not bound to restrictions of real production processes.

Fabric / Garment CAD companies: The users can benefit only if the whole process is virtualized, since switching between virtual environment and reality consumes a lot of time. FFD demonstrates how fabric and garment CAD systems need to work together to form complete virtual prototyping systems.

THE FFD SOLUTION

FFD is a real-time solution which for the first time completely virtualizes the whole garment production process from the yarn to the virtual garment prototype. To achieve this, the process is broken up into three development sections. These sections target the fabric design area, the garment