HOW TO CONTRIBUTE IN MAKING A MORE SUSTAINABLE SUPPLY CHAIN PROCESS

OER: VIRTUAL PROTOTYPING AND USED TOOLS

Objective & Scope

The virtual garment, and the Virtual reality penetration of the market, and communication between supplier and manufacturer, are still in their infancy. The objective of this learning activity and the connected OER is to make the students involved get a closer look to the processes and communication of a garment making, between the parties involved, suppliers, manufacturers, designers. The scope of the LA is to bring the trainee up-close with the digitisation of the product and to guide them throughout the process of the supply chain steps which can be digitised, without needing the physical contact with the garment.

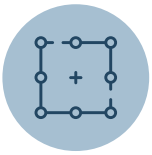
Activity Question

By examining the supply chain process of a garment making, the focus of this activity will be placed on the prototyping stages. How could virtual prototyping be applied to support designing and supplier and manufacturer communication?

Learning Goals

- Developing practical skills in using available databases for creating a digital garment
- Getting acquainted with the scope of virtual prototyping and the tools used for it
- Improving team-work abilities among the scholars

Categories



Advanced Textile Technology

Design Process

Product Design

Support material

- OER
- Summary presentation

Equipment

Computers and CLO3D software (available for trial mode also), any available 3D garment design software

A.

Why do we need to consider VR as a new method to support more sustainable supply chain processes?

Pre-session home reading of OER and other references

1.
Divide into small groups (4 persons max)

2.
Extract from the textile's supply chain model the prototyping stages and find the activities that are followed by the designer, supplier and manufacturer (Theoretical)

3.
If step one does not provide enough information through theory, you can search information from the website of Optitex, Browzwear or other software companies mentioned in the OER.

4.
Ask them questions about their supply chain procedure and more specifically, about the stages where the prototyping of the garment/ textile takes place.

5.
Calculate the amount of time, and if applied, the number of different places that the prototypes need to reach in order for the parties included to reach the final product

6.
List all the activities followed in the prototyping stage

7.
How many of these activities do you think are feasible to be completed via VR?

8.
What is your opinion and what would you suggest for the better communication between supplier/ manufacturer and the company?

9.
Discuss the advantages and disadvantages of the digitisation of the process above in class

Around half a day
A day or more than a day

Small Group Discussion

Discover & Define

B.

In order to visualise the theory above, can you perform a design of a 3D T-shirt and make changes on it?

1. Each group gets acquainted with the used tool for a digital garment (preferably CLO3D)

2. Get the required data for the pattern of a t-shirt

3. In each group, divide the members into roles (supplier, manufacturer, designer, etc.)

4. Roleplaying for making the T-shirt between the parties involved

5. Exchange designs in between parties according to different preferences (roleplaying of samples exchange in the supply chain)

6. Deliver and analyse results – Discuss improvements on the methodology

7. Indicate all the uncertainties that you have encountered. Use them for testing different scenarios

8. Make a roadmap of your results

9. Explore similar analysis and see similar results

10. Discuss the results

Look at the roadmap of your results and discuss different assumptions that you think will indicate the steps in your process. What do you see? What parts of your roadmap have the biggest impacts? What impacts change the most with different assumptions?
Interpreting your roadmap may cause you to rethink your boundaries or functional unit; that's ok, you can redo them and make new roadmap to interpret. Don't expect it to be a linear process.
Use your final assumption to estimate your priorities for a digital design and a digitization of the supply chain prototyping steps. Where should you focus your creative efforts? Where do you need to know more before moving ahead?

Around half a day
A day or more than a day

Individual
Small Group Discussion

Develop & Deliver