

FACILITATING USER INVOLVEMENT IN TEXTILE DEVELOPMENT

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Three-dimensional (3D) textiles is a category of technical textile that recently have been successfully applied in healthcare, as demonstrated by e.g. advanced wound healing bandages, textile blood vessels, and scaffolds used for growing e.g. ((Moutos et al., 2007). Smart textiles, i.e. textiles based on new “smart” materials and/or textiles used in “smart” applications, have also attracted a huge interest based on the potential seen in healthcare e.g. to monitor (electro) physiological signals using textile electrodes/sensors (Van Langenhove et al., 2007) in order to take full advantage of these new opportunities the textile industry need to find new ways to develop new smart textile based products.

One strong and valuable contribution to the development of new innovative products is to involve users early in the development process. By including healthcare personnel as users in the development of innovative textile products, directed to the healthcare market completely new solutions or applications may be suggested by the users based on their experiences and what they see is lacking in their everyday work situation.

The approach of the study presented in this paper is to examine how textile *product representations* such as prototypes or material samples for instance, can be used early in the development process to facilitate the communication and collaboration between developers and users. *The aim of this paper* is to highlight how textile product representations can contribute to the communication and understanding within the user and developer and the facilitating roles the product representations might have in the development of new textile based innovations within healthcare.

Method - The innovation process covered in this study lasted for and involved which were studied using a qualitative analysis based on recordings of the dialogue within the team (participating observation).

The focus of the observation was to see how the *product representations*, which were developed between and introduced at the meetings, contributed to the dialogue between the users and developer

Results – The main conclusion is that product representations in support exchange of knowledge and experiences. Five facilitating roles which the product representations play were identified,

- Demonstration – i.e. serve to demonstrate technical solutions.
- Verbalisation -i.e. serve to fill in where words are missing or when terms are not understood.
- Visualisation- i.e. facilitate team members to recall or adapt mental images of the intended future product.
- Stimulation- i.e. inspire team members to generate new ideas or design
- Integration- i.e. unite different perspectives within the development team.

Conclusion - To take full advantage of opportunities made available by recent development in materials and new manufacturing techniques the textile industry need to find new ways to develop new innovative products that fulfil the users' needs. By increasing the awareness on how product representations may facilitate the dialogue between users and developers, the textile industry may, based on this research, take the step from traditional textile development to a more user-oriented approach where product representations can support real user involvement

Key Words: product development, smart textile, 3D textile, product representation

References

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