New User Interfaces for the Sales Process Support

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Abstract. In this poster we report on intermediate results of the development and evaluation of an in-store sales process support system for sales staff and customers aiming to enhance face-to-face consultation and purchase-related decision-making.

1.   INTRODUCTION

E-commerce is an example, where information technology has become indispensable for many people. Though it has many desirable features, e.g. providing access to a wide variety of product alternatives, it cannot serve all consumer needs. Aspects of "real world" shopping valued by consumers and often not or not easily substituted within e-commerce systems are, e.g. the social aspects of the shopping experience or the potential, immediate support of a sales assistant. In addition, consumers vary in their access to and familiarity with information technology (IT) and some groups in society are more likely to rely on "real world" shopping.

These insights inspired our work to research concepts that support the real world sales process with IT in order to combine the advantages of both worlds. Previous work was, for example, conducted by Rodden & al. [Rodden 03], who researched novel interactional workspaces for the support of face-to-face consultations.

In such a setting with an interplay between user and advisor as well as real and virtual environment, we concentrate on the usability of a sales process supporting system, designed as an in-store installation. Targeted end-user groups are both, the sales staff and the customers. Sales assistants shall not be replaced but be supported naturally, unobtrusively in their interaction with the customers. As for the staff, basic IT experience is expected, accompanied by short trainings on the system. Concerning the customers we assume an even wider range of characteristic values (age, abilities, prior knowledge, physical handicaps).

The particular sales context is made-to-measure shirts. Though provided with examples of the available array of fabrics and other product components (e.g. collars), and some made-up shirts, customers are not usually able to see a shirt made to their full specifications. This is an example, where IT has the potential to support the selection process and to improve access to a large range of design alternatives. In addition, virtual product representations enable customers to get a clearer understanding of their selected combination as a complete shirt.

Our current system is the result of a sustained program of research, starting with the project "ShopLab" and being seamlessly continued with "IntExMa", "Interactive Expert System for Made-To-Measure Clothing". The main system components are a large-sized three-dimensional product visualization, user interfaces for customers and sales staff and software for product and customer information management [IntExMa 06]. Aiming at a high degree of realism the shirts drape and appearance are simulated physically on human-like avatars, intended to represent the individual customer.

2. METHOD

We implemented a User-Centred Design process with the steps context of use analysis, requirements specification, production of design solutions, evaluation of design results with (both) end-user groups and feedback into the next of altogether three cycles [ISO 99]. Repeatedly, different interface alternatives are considered during the design phases, implemented as rapid prototypes and tested in the project labs with the most promising finding their way into the superordinated system. Regularly, the latter is subject of extended usability and acceptance tests, conducted with real customers and sales staff in one of the shops of the made-to-measure tailor Campe & Ohff in Berlin or Hamburg.

3. RESULTS AND CHALLENGES

So far our work has resulted in an installation with two separate interfaces besides the 3D scene display, that both operate on the same data and can be used concurrently: A PDA and a custom-designed interaction device consisting of only two buttons and a rotating knob.

The latter has evolutionarily evolved out of a touchscreen-based interface formerly employed beside the 3D scene display to offer the whole system functionality to both, customers and sales staff. The current knob and button interface, with its GUI overlaid on top of the 3D product visualization, are optimized for the customers. In contrast to the former solution, functionality is minimized, while still providing a high degree of interactivity: navigating the product catalogue, configuring shirts by choosing from two millions of different product combinations, directing basic aspects of the 3D scene. Both is expected by the customers and achieved by the system without overstraining them, due to our findings. The simple hard- and software layout does not demand fine motor skills, provides spontaneous interaction and should meet the demands of the widest user groups including the physically handicapped.

The sales staff with the help of a handheld computer provides additional functionality resp. customer service. The PDA is used as a remote control for the 3D scene and makes product and customer data available, supporting the sales personnel in the face-to-face consultation.

First user tests, still to be verified on a broader basis, indicate the promising potential of these interfaces and the overall system. It offers access to a wide range of product information during the "real world" shopping process in a ubiquitous manner. Customers appreciate the non-standard, but very easy-to-use interface and the cooperative, sales staff accompanied system usage. We found out, that the product visualization and interactivity enhances their shopping experience and facilitates their purchase decision. Meanwhile, their attitudes towards the characteristics of their digital representation have proven to be quite controversial and deserve further study. Similarly, the sales staff showed positive ratings for the PDA interface and the overall system supporting the customer consultation, but suggested integration with stationary IT equipment, mainly for faster and more comfortable text entry.

REFERENCES

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