Digisketch

Introduction

Within the research field of man-machine interaction, the main focus is on the simple and intuitive interaction with IT-systems, which also will allow a multi-user interaction. In order to reach this goal, two main research strategies exist. One approach is to create a digital environment, which will allow an intuitive interaction in such a way that is comes very close to 'analog' working procedures. The other approach is to make analog working procedures as digital as possible without constricting the user's working behavior. Both approaches have in common that they focus on a support of teamwork – locally as well as net-based – in order to allow an efficient information exchange.

Figure 1: Completely digital working environment

Although information technology is introduced into almost any industrial business process, creativity processes are still an examination, since they are not or only poorly supported. Reasons for this are the very demanding requirements on the man-machine interface, which especially occur when entering information into the system. Current technology seems to not completely fulfill these requirements, since it still relies on the typical PC-metaphor (PC = personal computer = single user device). This means that only a sequential input is allowed, while typical teamwork very often requires parallel and synchronous interaction capabilities.

Figure 2: Analog working methods combined with information technology

Task description

The main goal of Digisketch is to combine the two approaches mentioned in the above within one common environment. The feasibility and usability of such a system should be proved with a suitable application. In particular, the user interaction should be taken into account, who only should handle one device no matter whether he wants to interact on analog or digital surfaces. Subsequent user tests should demonstrate how the information exchange within group processes could benefit from such a new technology.

Approach

A non-repetitive pattern will be scanned with infrared light. From the acquired pattern image, the device's absolute position on the interaction space can be determined and then transferred to an application on the computer.

Stage of development

Prior to the project, extensive research was done in both approaches and functional prototypes in both fields exist, which are running as stand-alone systems.

Status

The project is funded by the Hasler foundation and started on 1st September 2008. It has a duration of 12 month.

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