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Industrial Design

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PHILIPS

ASML

Graspable cues for everyday recollecting

Autobiographical memory, “memory for the events of one’s life”, has several functions including making friends, regulating moods and shaping personal identities. Each day people create autobiographical memories, e.g. by looking at this poster and thinking or talking about it later. People can recollect these memories by using cues, since a cue can help to reconstruct a memory. Text, sounds, smells, videos, photos and souvenirs can all serve as cues. Technical innovations increasingly enable the creation and storage of such cues in digital formats. Therefore, the project team I was a member of aimed at building a digital photo browser in the context of the Ambient Intelligent Home. My work mainly focused on the use and user of such a device.

Tangible interaction design

It was demonstrated, by means of a questionnaire study, that souvenirs can be considered as external memory (a physical instantiation of human memory). In addition, souvenirs turned out to be suitable as physical objects in a tangible user interface (TUI) supporting recollecting. Another study focused on the analysis, design, implementation* and evaluation of a graphical and tangible user interface for the digital photo browser demonstrator (Figure 1). This TUI enables people to use personal souvenirs to interact with their digital photos. Based on this study with personal objects an extension to the state-of-the-art TUI-categorization was added.

Figure 1. The digital photo-browser demonstrator with tangible objects (photo: Philips Research).

Autobiographical memory research

The digital photo browser raised questions on what cue-types to add to such a device. Consequently an experiment was conducted which compared the effect of cue modality (odor, souvenir, photo, sound and video) on the number of memory-details people had from a standardized real-life event. A new method was developed to quantify memory-details. The results showed that against prevailing context-dependency theory the no-cue condition (in effect only text) generated significantly more memory-details than any of the cue conditions. This observation suggests that cues have a filtering effect on recall, but this needs further research.

Based on the gathered knowledge and literature the thesis concludes with design recommendations for a future recollection-supporting device.

* The implementation of the demonstrator was a team effort.