

Sparkling Science >
Science linking with School
School linking with Science

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Sparkling Fingers

LEADING INSTITUTION

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SCIENTIFIC CO-OPERATION PARTNER

Vienna University of Technology,
Institute 'integrated study' (ISTU)

SCHOOLS INVOLVED

SZU – School Centre Ungargasse, Vienna
Federal Institute for the Blind, Vienna



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www.bmwf.gv.at

Austrian Federal Ministry of
Science and Research

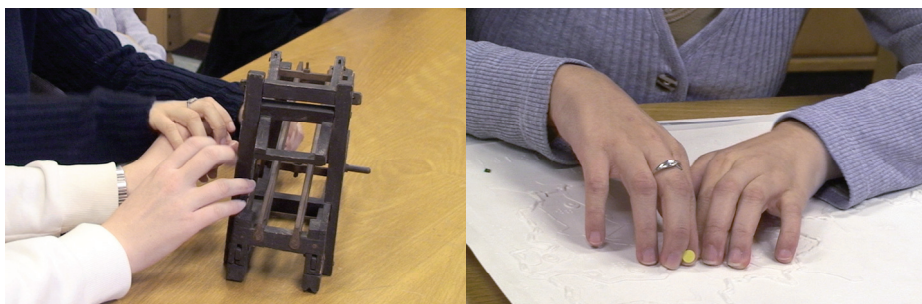
Sparkling Fingers

Participatory design of assistive technology in the educational context

Especially for visual impaired pupils tangible objects are an important part of their teaching. However, the possible linkage of computer-aided learning and the exploration of models and materials have been widely neglected. The initial concept of Sparkling Fingers is a motion tracking setup providing storage and retrieval capabilities of multimodal content, while the user explores a two or three-dimensional object with his hands.

The development of this “tool” is carried out involving potential users (Federal Institute of the Blind, Vienna). In addition students of the SZU (School Center Ungargasse) Vienna are taking part in the process. Using a „participative design“-approach, ideas and interests of students and teachers alike are brought in during several development phases. Furthermore, insights into educational practices and didactical situations are provided for members of the TU (Vienna University of Technology), helping to build a prototype that suits real-world requirements.

The students of the SZU are working on specific topics in form of a project thesis, while using a blog as a communication platform as well as an archive for their research. To gain practical experiences in tracking technologies their prototypes are built on the basis of low cost consumer electronics.



Their availability allows the students to experiment outside the classroom, while the connection to topical developments in the digital game culture fosters interests in alternative interface technologies.

"[...] using Linux I was able to connect the Wiimote in phenomenal six seconds only and I could even control the whole thing smoothly. As an IR source I used a lamp and it worked in an excellent way and naturally our IR-LED worked too. Furthermore, regarding 'programming and Wiimote' I found this site. Here you should really take your time to look at the videos. It's unbelievable!"
(Blog entry of a student, SZU)

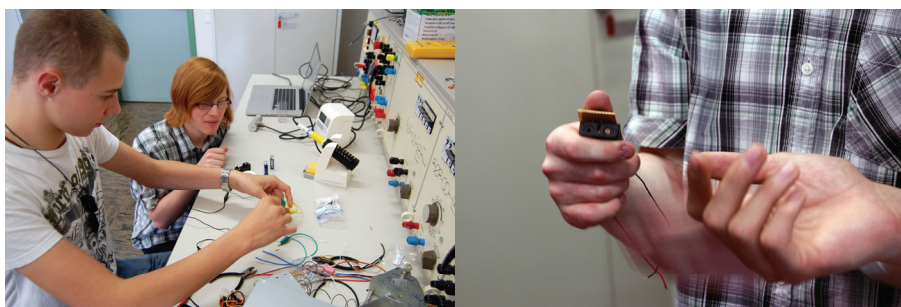
The multi-perspective approach may lead to a broader understanding of assistive technologies in connection with tangible interfaces and e-learning strategies, while the students get the opportunity to take part in an academic project as actively involved design partners.


Furthermore, the cooperation of TU members, students and teachers might lead to new insights and more experiences regarding participatory design techniques in the educational sector.

Further information

The project activities are documented on a project website:

<http://igw.tuwien.ac.at/sparkling>





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