

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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Austrian Federal Ministry of
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Sparkling Fingers

Participatory design of assistive technology in the educational context

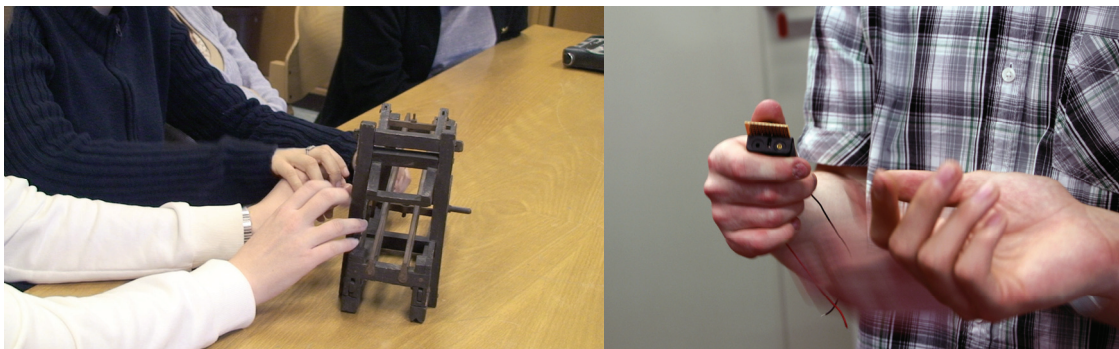
Especially for visual impaired pupils tangible objects are an important part of their teaching.

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.

During the development of this “tool”, potential users (Federal Institute of the Blind Vienna) as well as students of the SZU (School Center Ungargasse Vienna) were constantly involved.

Using a „participative design“-approach, ideas and interests of students and teachers alike were brought in during several design phases. Furthermore, members of the TU (Vienna University of Technology) were able to gain new insights into educational practices and didactical situations, which helped to build a prototype that suits real-world requirements.

The students of the SZU worked on selected 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 were built on the basis of low cost consumer electronics.



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

“[...] using Linux I was able to connect the WiiMote in phenomenal 5 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)


Students of the SZU participated in design workshops, visited a project related presentation at the university and were able to complete their studies successfully.

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

Furthermore, the cooperation of members of the Vienna University of Technology, students and teachers gained new insights and more experience regarding participatory design techniques in the educational sector and a basis for further research on the possible use of audio tactile maps.

All activities are documented on the project’s website:
<http://igw.tuwien.ac.at/sparkling>





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