ABBI Project Newsletter

January 2016

Research and Development

by The ABBI team

In the last six months the ABBI consortium have worked on multiple experimental and technological aspects:

- A new rehabilitation program on visually impaired children has been jointly performed by IIT and Istituto Chiossone.
- The usability test regarding the ABBI app has been performed by University of Lund in collaboration with IIT.
- A rehabilitation program on visually impaired adults has been performed by the University of Hamburg.
- Dissemination activities have been carried out by all members of the project.

ABBI Spatial rehabilitation program in children 1-5

In order to improve spatial cognition in very young visually impaired children, we developed a rehabilitation program based on the use of ABBI device. The audio bracelet was used by children and therapists for 30 minutes per week for three months during specifically selected audio-motor exercises. For example, one exercise required the child to intercept a sonorous object that was moved in front of her/him by the experimenter. Our preliminary results indicate that after the spatial rehabilitation performed with ABBI, congenitally blind children are able to better perceive the representation of space and encode the spatial properties of the events.

ABBI Rehabilitation program in adults

UHAM started a training program with ABBI in 14 blind, starting from September 2015. Both early and late blind participated. The training consisted in specifically selected balance and postural exercises for 3 months.
For this program, a specific sonification paradigm was developed by UHAM and IIT. After multiple testing, the velocity based shema, acceleration based speed of the body sway was chosen to be the most suitable for the training. ABBI was consequently placed on the trunk of the patient.

ABBI app usability test

An usability test paradigm for ABBI smartphone application was developed by ULUND and tested by IIT with the children participating in the rehabilitation study, their parents, and the rehabilitators from Chiossone Institute.

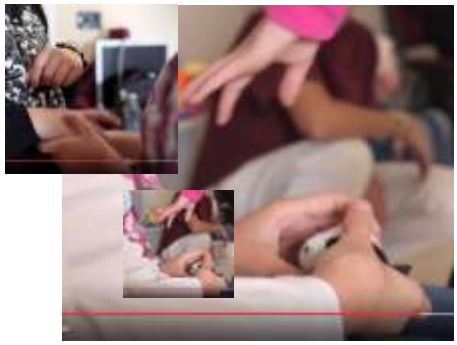
ABBI application design. This solution resulted easy to use for all users. It resulted well integrated with the Android Talkback.

Dissemination and exploitation activities

by The ABBI team

ABBI project has been widely disseminated in both scientific conferences and technical fairs.
University of Glasgow presented at ASSETS conference the results of the grasping study in blind children.
IIT presented the results of the spatial rehabilitation in children 6-18 performed during the second year at the Neuroscience conference in Chicago.

In addition, the ABBI project won the Smart Cup Liguria in the topic of Health Science. The price consists in 40000 Euros and the possibility to open a start-up company with the support of the local Commerce Chamber.



ABBI spatial rehabilitation program in children 1-5. During the exercise, the child localizes and reaches the ball moved by the therapist who wears the ABBI bracelet.

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DETAILS

Website: www.abbiproject.eu
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ABBI - Project number:611452
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