ANALYSIS OF FACIAL EXPRESSIONS WITH SPECIAL NEED CHILDREN: PRELIMINARY RESULTS

Brigitta Miksztai-Réthey *, Tímea Magyar **

* Neural Information Processing Group, Faculty of Informatics
** Eötvös Loránd University

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Recent unprecedented developments in mobile device technology tools may drastically change our everyday life. These transformations are expected to add the most value to the life of children with special needs. Our goal is to study these novel opportunities that may lead to personalized intelligent tutors and individualized adaptive training: the computer will monitor the facial expressions of the subject (*Jeni* et al., 2012), learn the emotional and cognitive profile of the child, and predict the actual and the coming behavioural patterns, respectively subject to the potential actions of the intelligent tutor utilizing a „recommender system" (*Szabó* et al., 2012) compressing the information hidden in the database.

Two studies were launched:

(1) 18 children and young adults with severe speech loss and motion disabilities tried to use the webcam based „headmouse" to control the cursor in order to enable their computer based assessments. Their facial expressions were recorded to identify those behavioural patterns where the computer should interact to ease their tasks.

(2) Emotions related to problems with level of numerical concept were recorded for 38 children.

Out of the 18 children with special need, the headmouse was the best choice for 3, 7 either had better options or failed, whereas the work is still in progress for 8 children. Special behavioural patterns that can be overcome by the computer were identified for 1 out of the 3 children. Facial expressions for the group of 38 children are being analysed to quantify the interrelations between emotions and performances.