UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

Antonio Cerrato

Dottorato industriale XXXII ciclo in "Mind, Gender and Language"

Dipartimento di Studi Umanistici, Università degli Studi di Napoli Federico II

Designing, developing and testing a technologically enhanced version of the Baking Tray Task to assess Visual Neglect

Introduce il *Prof. Orazio Miglino,* responsabile del Laboratorio di Sistemi Cognitivi Naturali e Artificiali dell'Università degli Studi di Napoli Federico II

22 Gennaio 2018, ore 12:00

Dipartimento di Studi Umanistici
Aula Iacono – via Porta di Massa, 1 - Scala B, 2° Piano – Napoli

dipartimento studi umanistici

Natural and Artificial Cognition Lab
University of Naples Federico II
www.nac.unina.it

Ministero dell'Istruzione, dell'Università e della Ricerca
PON 2014-2020

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Dipartimento di Studi Umanistici, Università degli Studi di Napoli Federico II
✉ ***antonio.cerrato@unina.it***

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ABSTRACT

Visual neglect is an important predictor of poor recovery from right hemisphere damage. However, neglect patients often "learn" to perform paper and pencil tasks, thus showing apparent neuropsychological recovery in the face of persistent clinical deficits.
The Baking Tray Task (BTT; Tham, 1996) provides a more "ecological" way to assess neglect, less subject to practice effects than paper and pencil tests. Participants are asked to dispose 16 cubes on a surface, as if "*they were buns to be put in the oven*". Neglect patients tend to group the cubes on the right part of the surface. We propose an enhanced version of the BTT, supported by a camera and tangible interfaces (actual cubes that can be concretely manipulated by participants and, once disposed on a defined surface, detected by the camera). This version allows the automatization of the scoring of the BTT and the acquisition of several indexes related to the patients' performance. It thus provides new chances for objective, online data analysis. Future directions of the project are related to the possibility to develop rehabilitation programs in our digital environment.

-References-

Tham K. (1996). The Baking Tray Task: A Test of Spatial Neglect. *Neuropsychological Rehabilitation: An International Journal, 6:1, 19-26.*

Related Publications:

- Cerrato A., Ponticorvo M. (2017) Enhancing neuropsychological testing with gamification and tangible interfaces: the Baking Tray Task. *International Work-Conference on the Interplay Between Natural and Artificial Computation,147-156.*
- Cerrato A., Bartolomeo P., Siano G., De Marco A. (Under Revision) Augmented Reality in Education and Training: the Case of ArUco Markers. *Qwerty - Open and Interdisciplinary Journal of Technology, Culture and Education*