

The Michelangelo Project: Patient-centric Model for Remote Management, Treatment and Rehabilitation of Autistic Children

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Abstract

Autistic Spectrum Disorder is a pervasive developmental disorder that is thought to affect approximately 1 in 100 children, a number which has significantly increased over the past three decades. The FP7 EU-funded MICHELANGELO Project (Grant Agreement # 288241) aims to support the delivery of intervention programmes for children with autism through the provision of cost-effective, technology-based solutions that assist with in-home therapeutic interventions. Aiming to empower parents and their children, the project focuses on three strands of research: (1) embedding state-of-the-art healthcare technologies within the home to support therapeutic interventions while maintaining clinical support via remote communication solutions, (2) conducting exploratory research to investigate neurofeedback as a method to stimulate neuroregulation and metabolic functioning and (3) analysis of potential correlations between exhibited behavioural characteristics and neurological brain activity. To achieve this vision, the project is designing and evaluating sensor-based technologies to record physiological parameters, in addition to embedding video systems to monitor observable behaviours, during therapy sessions. Furthermore, to support neurofeedback investigations, a novel wearable EEG system is being developed that aims to realise a less invasive device than traditional QEEG systems. Subsequently, information gleaned during therapy sessions will be routinely assessed and the intervention plan modified by clinical specialists.