Autoplay

Type of Project

Ongoing research project

Summary

AutoPlay proposes a simple while powerful system for objective and free of context conditioning
observation of autism signs in infants. This is realized by using non invasive wearable sensor
nodes (WSNs) in a game context (e.g. kindergarten, home), and advanced data analysis and
comparison. If successful, this work can open to early diagnosis of autism.
An initial study of the way the child and the autistic child plays a game (see: feasibility study)
allowed to start developing a new fundamental knowledge to a global understanding of autism and
to facilitate the early diagnosis of autistic disorder making it more recognizable and acceptable by
the family.
The key elements of innovation of AutoPlay builds on it, and are the us of the game and the game
environment, to easy the free recognition, and the use of sensor and data analysis, to realize an
objective output.

Low-tech, high-tech products, services and contexts for play

We aim at developing a system for collecting, analyzing and classifying infant behavior in playing games, so that we can identify the game activities patterns and their deviations, with the following constraints: the system must work (1) with a small number of sensor nodes; (2) recognize a very large number of game behaviors, with sufficient accuracy; (3) work without users feedback.

The intended target groups are infants with neurodevelopmental disorders (NDDs), their families and pediatricians.

The context of use

AutoPlay is realized by using non invasive wearable sensor nodes (WSNs) in a game context (e.g. kindergarten, home).

Type of play in this play system

Cognitive

Practice

Symbolic

Constructive

Social

Solitary

Objectives related to play according to ICF-CY

Play for the sake of play: Major life areas - d880 enagement in play

d8800 solitary play

Play-like activities: Therapeutic and educational objectives

b1 Mental functions

Number of participants

5-10

Chronological Age

0-3 years

Development Age

0-3 years

LUDI Categories of disabilities

Autism Spectrum Disorders:

Explanation on the use of low-tech, high-tech devices, services or contexts

Explanation

No instruction, self-discovery of the participant/subject

Involvement

Adult: therapist/educator/researcher

Parent or significant others

Role

Non-participatory observer

Information about availability of outcome measure: publisher, website, contact person

We are using data mining to analyse the data. However, project is ongoing and we do not have results yet.

Summary of achieved effects

Project is ongoing and we do not have results yet.

Keywords

Toys, sensors