



## 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
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#### Objectives related to play according to ICF-CY

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

d8800 solitary play
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**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