

## NLP and IR technologies role for museums offer to young with ASD: The Spektrum Project

UNED

Ana García-Serrano, Covadonga Rodrigo

ETSI Informática, UNED

{agarcia, covadonga}@lsi.uned.es

### DESCRIPTION

The focus of the SPEKTRUM project (2019-3-PL01-KA205-077866. Action 2 - strategic partnerships) is to enhance the accessibility of the museums offer to the young with Autism Spectrum Disorders (ASD).

The UNED group is a multidisciplinary team working in Distance Learning methodologies, Natural Language Processing and Information Retrieval.

First aim is the design and production of accessible content, enriched with semantics and e-learning tools (MOOC, e-pub books, web-seminars, etc).

Second aim is the adaptation of the narrative model developed at MUSACCES project (S2015/HUM3494), that coherently organizes information retrieved from different open linked data sources, and integrate it into itineraries, allowing the management of both experts and users.

### PREVIOUS WORK

The NLP&IR > HD research group is a multidisciplinary group made up of researchers, experts in:

- models for accessibility and usability [9],
- technologies for the management of large repositories of information [4, 5,6],
- the automatic processing of natural language [3, 7],
- access to multimedia information [1, 2],
- designing and follow up of the use of new technologies in education [8].

### MUSACCES PROJECT (S2015/HUM3494, 2016-2019)

The work developed aims to improve the relation of people with disabilities with the artistic heritage in the Prado museum.

In MUSACCES, the narrative model is based on a relationship graph. The set of all events ordered chronologically constitutes a story. The form of presentation (textual, image, sign language, audio, etc.) is the mechanism used to link the elements in such a way that is accessible and understandable. Structured open linked data is set along with new information to finally construct a story in which one could describe who the characters are and how they participate.

A first approach has been implemented (MPOC prototype). It defines a series of concepts that will serve as a structure for the construction of a semantic graph of metadata and concepts through the narratives. Currently, the system allows to manage predefined objects, such as the characters, plot events, museum works (and their associated metadata) or external references.

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