

Escuela Técnica Superior de Ingenieros Informáticos

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**University Master's Degree in Data Science**

**Intelligent Systems Course**

Assignment Unit 1

Submitted by:

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# Part I

The following table display which pattern was used to solve each situation.

|  |  |
| --- | --- |
| **Situation** | **N-Ary Relation Pattern used** |
| 1 | Pattern 3: several Individuals in a Relation |

# Part II

## Task A

For this task, we started to build the ontology from scratch regarding the domain that was assigned to us. To do these, we searched on the internet some related works on the subject, finding two interesting papers that became our basics. In this sense, we used the "Abilities and Disabilities Ontology for Online Learning and Services (ADOOLES)" and the "the Abilities and Disabilities Ontology for Enhancing Accessibility" as our framework; then, doing some tracking research using the references of each paper we found another's scientific paper that helped us to fulfill our assignment.

We began the ontology sketch focusing on the types of disabilities that we could trace, in this particular task we found many varieties, so we tried to aggregate them. Finally, we decided to stick with five majors groups, namely: Physical, Mental, Sensorial, Intellectual or learning, and Visceral disabilities. Then, for each category, it was listed the subcategories but in the final version of the ontology, only for Mental Disabilities appears a list of subtypes with proper names (the most commons). For the other ones, we put a general subcategory for the instances o directly the instances.

For the rest of the main concepts, it was followed a similar approach, we defined as classes the following elements: aided education, support assistance, rights and policies, and social implications. Each one, have subclasses except social implications, in which we listed the instances.

## Task B

For the reuse ontology, we focus on finding ontologies for the types of disabilities, here is the list that the ones used:

|  |  |  |
| --- | --- | --- |
| **Ontology** | **How it was found** | **Why it was selected** |
| Accessible | Online research | It gave some insights for the assistive technologies for people with disabilities. |
| Human phenotype ontology | Referenced by Hotchkiss, et al; paper | Gave insights for the types of disabilities. |
| [Human Disease Ontology](http://www.ontobee.org/ontology/DOID) | Found in Ontobee |
| [Mental Disease Ontology](http://www.ontobee.org/ontology/MFOMD) |

To build this ontology we followed the same approach used in the task a, using the first ontology as the framework.

# References

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