INFO116 – Term paper

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Summary

In this written report, you are going to get an understanding of what has been accomplished, get a little peek into our different solutions, and how we came to the conclusions that were made. The report will go through what each member of the group has contributed, as well as a walkthrough of our methods creating the ontology. There will also be an explanation on which data sources are used to gather the information acquired for both the ontology and markup. We will show some example queries to what our ontology could be used for. By using our added semantics, anyone who want can use our added information and put it into their own semantic database.

What we did

In the beginning when we got the term paper there were a lot of talk on how we were going to take on the problem. We had to read the assignment a couple of times to figure out what had to be done, who should do what, and where to start. After the planning was finished, we could finally start on the main part of the term paper. One of the members started working on the ontology and had it finished before the next group meeting. This made it so that we could start with the markup, which involved RDFa and JSON+LD. We picked five courses that we found had enough variety between them, and were interesting enough to write about and would gild for some good markup. Two of the members took care of the RDFa, and were working together to find the best solution for our ontology. In the meantime, another member wrote the JSON+LD files, which we later added to the .html files. This is mainly what took time during the assignment. We had to redo our ontology a couple of times because of some lack of content, and to correct some wrongs to make it work correctly. Logs were written after each labmeeting, to see who came and what had been done. After all this had been done, we found some interesting queries we could get answers to using our ontology. These were written in SPARQL and the whole team contributed in finding the most interesting queries.

We ran into a couple of problems when we tried to implement the SPARQL queries. The problems which occurred happened since the whole ontology missed some crucial details. All of the individuals and data properties were missing, and we were only a few days before the deadline.

Ontology

As with any ontology, this is an ontology of things. We have a hierarchy with all the subclasses we found necessary. They are divided after what we found the best, and placed in each category without any duplicates. Each course is linked with the different subclasses that fits and is needed by that class.

BASV-INFO is the superclass for the main part of the ontology. All its children are what is needed to get that degree. This includes all the courses you can take, all the different subject areas you are going to have and learn, and all the different course info connected to the subjects. Although, not all the information about the different courses are implemented. Some of the courseinfo would just be busywork, which is not necessarily needed. Of course it would be of some use to have it all, but it would just take up to much of our time.

The courses are divided after introduction, exphil, choice, and specialization. Introduction has the different 100-courses that are needed for taking the bachelor, while the exphil class has the two different exphil-courses that you can choose for this bachelor. In the specialization there are all the specialization courses. Choice has all the 2xx-courses, which you can choose to have in the fifth and sixth semester, or before if you choose so or are missing some studycredits. These are all connected to their different subject areas, what kind of examination types there are, their schedule and what kind of assignments you can expect.

Parentclass to BASV-INFO is the institute where the tutoring is going to take place. We’ve included some different institutes, so if there should be another degree added to the ontology, it won’t be necessary to do a whole lot of work to put it in.

We disjointed the subjects from each other in the choice and specialization. Everytime we added another siblingclass to a course, it also got all the information from it's siblings added to it. If we removed the information from one of the classes, they all lost it, but it all worked after the classes were disjointed.

Queries

Hvor mange overlapper

Hvor mange har programmering

Hvor mange har grupperprosjekt eller obligatoriske

Hvilkken fag er om høsten, semester 1,3,5

Har noen oop og algoritmer

Hvor mange studycredits kan oppnås vår

Hvilke subject areas lærer du av faget