



University Ontology

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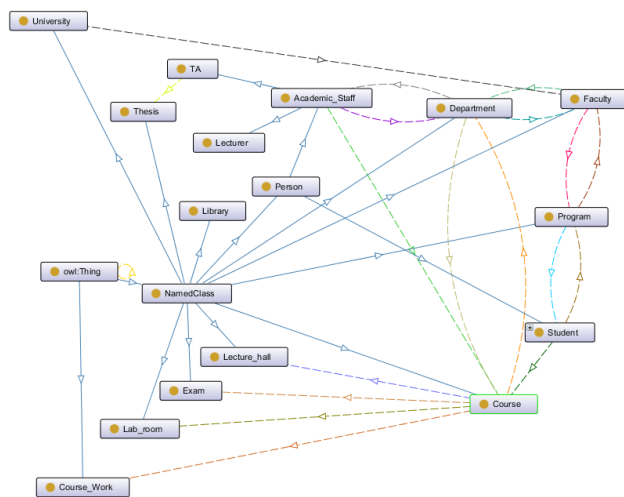
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Problem definition

We want to make an ontology that holds data of universities, this data consists of but not limited to universities, faculties, departments, education programs, courses, staff, students, TAs, lecturers, thesis, and exams.

We need our ontology to be able to answer questions such as who belongs to which department? Which courses do students study? Which courses do the university offer? What faculties are in a university?

Proposed solution



Arc Types	
type filter text	
<input checked="" type="checkbox"/>	course_of_department (Domain>Range)
<input checked="" type="checkbox"/>	department_of (Domain>Range)
<input checked="" type="checkbox"/>	enrolled_in (Domain>Range)
<input checked="" type="checkbox"/>	has individual
<input checked="" type="checkbox"/>	has subclass
<input checked="" type="checkbox"/>	has_coursework (Domain>Range)
<input checked="" type="checkbox"/>	have (Domain>Range)
<input checked="" type="checkbox"/>	have_course (Domain>Range)
<input checked="" type="checkbox"/>	have_department (Domain>Range)
<input checked="" type="checkbox"/>	have_exam (Domain>Range)
<input checked="" type="checkbox"/>	have_faculty (Domain>Range)
<input checked="" type="checkbox"/>	have_labroom (Domain>Range)
<input checked="" type="checkbox"/>	have_lecturehall (Domain>Range)
<input checked="" type="checkbox"/>	have_program (Domain>Range)
<input checked="" type="checkbox"/>	have_staff (Domain>Range)
<input checked="" type="checkbox"/>	have_students (Domain>Range)
<input checked="" type="checkbox"/>	have_thesis (Domain>Range)
<input checked="" type="checkbox"/>	program_of (Domain>Range)
<input checked="" type="checkbox"/>	staff_of (Domain>Range)
<input checked="" type="checkbox"/>	student_of (Domain>Range)
<input checked="" type="checkbox"/>	teaches (Domain>Range)

Slots

Name	Description	Domain	Range
address	University address	University	string
capacity	Capacity of a course	Course	Integer
id	ID of a person (Student or staff)	Person	String
lname	Name of an object	NamedClass	string
salary	Salary of staff	Academic_Staff	integer
course_of_department	Which department the course belongs to	Course	Department
department_of	Department of which faculty	Department	Faculty
enrolled_in	Student enrolled in which course	Student	Course
have	Have relationship between things	Thing	Thing
has_coursework	Course has coursework	Course	Course_Work
have_course	Department has Course	Department	Course
have_department	Faculty has Departments	Faculty	Department
have_exam	Course has Exam	Course	Exam
have_faculty	University has Faculties	University	Faculty
have_labroom	Course has assigned Lab room	Course	Lab_room

<i>have_lecturehall</i>	Course has Lecture halls	Course	Lecture_hall
<i>have_program</i>	Faculty have which programs	Faculty	Program
<i>have_staff</i>	Department have which staff	Department	Academic_Staff
<i>have_students</i>	Programs have which students	Program	Students
<i>have_thesis</i>	TA have which thesis	TA	Thesis
<i>program_of</i>	Program of which faculty	Program	Faculty
<i>staff_of</i>	Works with which department	Academic_Staff	Department
<i>student_of</i>	Student of which program	Student	Program
<i>teaches</i>	Teaches which course	Academic_Staff	Course

Graphical user interface

Semantic Web Project

Input:

Output:

TA [TA3] is staff of [CS_dep]
TA [TA2] is staff of [CS_dep]

Course_General
CS_dep
CS_prog
DS_dep
DS_prog
FCAI
general_prog
IS_dep
IS_prog
IT_dep

Semantic Web Project

Input:

Output:

Student [Student_1] is enrolled in ([Course_1][Course_2])

IS_prog
IT_dep
IT_prog
Lecturer_1
Lecturer_2
Lecturer_3
Student_1
Student_2
Student_3
TA1

Semantic Web Project

Get all the courses offered by a certain faculty.

Input: FCAI

Output:

- Faculty [FCAI] offers [Course_General]
- Faculty [FCAI] offers [Course_3]
- Faculty [FCAI] offers [Course_2]
- Faculty [FCAI] offers [Course_1]

Run

Course_1
Course_2
Course_3
Course_business
Course_General
CS_dep
CS_prog
DS_dep
DS_prog
FCAI

Semantic Web Project

Get Lecturers of a faculty.

Input: FCAI

Output:

- Faculty [FCAI] has lecturer [Lecturer_3]
- Faculty [FCAI] has lecturer [Lecturer_2]
- Faculty [FCAI] has lecturer [Lecturer_1]

Run

Course_1
Course_2
Course_3
Course_business
Course_General
CS_dep
CS_prog
DS_dep
DS_prog
FCAI

Semantic Web Project

Get all faculties of a university.

Input: Cairo_Uni

Output:

- Faculty [FCAI] has lecturer [Lecturer_3]
- Faculty [FCAI] has lecturer [Lecturer_2]
- Faculty [FCAI] has lecturer [Lecturer_1]

Run

AI_dep
AI_prog
Business_dep
Cairo_Uni
Commerce
Course_1
Course_2
Course_3
Course_business
Course_General