## CSE 532: Project 3 - WOCO Database via XML

Fall 2019

Due: December 3

## 1 Description

In this project, you are to design and implement the same database application as in Projects 1 and 2, but now using the XQuery language.

### What did *not* change:

- The same description of WOCO.
- The use of Github classroom.

#### What did change:

- The language: instead of SQL and Datalog use XQuery.
- The system: instead of PostgreSQL, use **eXist-db**, an XML-based database system. Download it here: http://exist-db.org/exist/index.xml.
- Interface: none (for **CSE532**). Use the client application provided by eXist-db to paste queries and get results.
  - For CSE522 students: Build a user interface similar to what you did for Project 2.
- Object-oriented design: you will now be using the object-oriented design with no compromises, since XML naturally supports almost everything in O-O (except class hierarchies).
   Details of the design are given below.
- This project is to be done individually, without partners.

**Design:** Information will now be given as XML documents stored in eXist-db. **XML Schema** must be supplied for all XML documents stored in the DB and all constraints (key, foreign key) must be specified. The instance XML documents must validate against the schema.

# 2 Queries

Same as in Project 1. For query 4, use the universal quantifier feature of XQuery where appropriate.

### 3 Documentation and Submission Instructions

Submit through Blackboard all XML data files and the query document (containing all the XQuery statements) and include a header in each with the following information in the comments:

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File name: XXXXX

Author: Name (SBU Id)

Your deliverables must be in a single .zip or a .tar file with the following plain-text items included:

- XML schema documents mentioned above.
- All the relevant XML data documents.
- All the XQuery statements in a conveniently readable form.
- Clear and simple instructions for deploying your application in eXist-db.

  It should be possible to just load your DB, paste the queries one-by-one, and see the results.

  This is how we will test your work.
- Include your Github Id

The data XML documents **must** be validated against the schema. The XML and XQuery documents must include the following statement at the top:

I pledge my honor that all parts of this project were done by me alone and without collaboration with anybody else or using code from external sources.

There is a Blackboard assignment, called Project 3. Use it to submit the above items in addition to Github as follows:

- Create a directory with the name CSE532-Project3-your-name
- Put the above items in this directory and zip it up or tar it up.
- Submit the resulting archive on Blackboard.

If the project does not quite work or does not work at all, explain the problems in the submission text box. We will then see if partial credit can still be given.

#### 3.1 Git Repository

Log into Github and follow this link to sign up for your Project 3 repository within the classroom:

https://classroom.github.com/a/pPMRZQhJ

As before, you must show a reasonable GIT commit history or else grade reduction will be applied.

# 4 Teaming

No teaming.