Semantic Web Project 2020

Phase 1. Develop a **web application in any language** you want to facilitate the search and recommendation of suitable electronic teaching and learning tools, in pandemic times. Each tool should have a description, a link towards the website from where you can download it, if it is a learning or a teaching tool, its category (presentation, assessment etc), if it is web-based or not , if it is free or not (and the price, if it is not free), the list of subjects where it can be used, the author.

Tasks:
1. Create input data for at least 20 tools in XML format. You could pick them from this website https://www.toptools4learning.com/. (1 point)
2. Create DTD/ XSD for your data. (1 point)
3. Read in memory the list of tools from your local XML file. (0.5 pts)
4. Create a form in which you allow users to propose a new learning/ teaching tool. Add the tool to your XML list (in memory) and save it to your local XML file or to a database. Pay attention to validation aspects. (1.5 pts)
5. Display on your web interface the list of tools from your local XML file/ database. First, read in memory this list and then display it using XSL. The teaching tools will have yellow background and the learning tools will have green background. (1 point)
6. Allow the user to see all the information for a specific tool. Use XPATH/ XQuery. (0.5 pts)
7. Provide the list of tools proposed in the last X days, where X is inserted by the user using XPATH/ XQuery. (1 point)
8. Provide the list of tools with a certain category, where that category might be chosen by the user from a given set of options. Use XPATH/ XQuery. (1 point)
9. Provide the list of tools for engineering. Use XPATH/ XQuery. (0.5 pts)
10. Provide a graphical interface for your application. (2 points)

You must use XML, DTD/ XML Schema, XSL, XPATH/ XQUERY to store and query the data. When developing the application, have in mind it should be extensible, as during Phase 2 you will work on the same application.

Deadline: upload on the 5th of December 2020, 23:59, on Moodle.
Maximum value gained: 1 point from the final grade. This phase will be graded from 0 to 10.
Attention: To receive the grade, you must present the project during laboratories, to Mrs. Iuliana Marin.
Maximum 2 students can work on the assignment.

Phase 2. [To be filled]

Deadline: upload on the 16th of January 2021, 23:59, on Moodle.
Maximum value gained: 2 points from the final grade. This phase will be graded from 0 to 10.
Attention: To receive the grade, you must present the project during laboratories, to Mrs. Maria Dascalu and Iuliana Marin.
Maximum 2 students can work on the assignment.