

ITECH3224/6224 World Wide Web Technology II

School of Science, Information Technology and Engineering

University of Ballarat
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Assignment 2

Term 2, 2013

Introduction

This is an individual assignment in which you can explore the use of extensible files in web programming, using PHP and XML.

Details of the weight of the assignment and due date are given in the course description.

Task Description

Introduction

A simple database with a single table contains data concerning car registration. The table contains four fields that store data relating to registration number (unique), make of car, year of manufacture and car colour. There are constraints placed on the data that are described below.

The assignment tasks are closely associated with the lab work of topics 8 to 10. Code which is provided in the topic 10 lab work should be a useful guide throughout this assignment.

The assignment requires a number of files and a report to be produced. The report should respond to written tasks that are included below.

Initial task

Document the data that you have chosen by adding a table to your report. The table should have about 6 records with no NULLs. Document also the names of the table and the fields.

Tasks supported by Topics 7 and 8

Mark up the table of data using XML tags and save it as an .xml file. Check that the file is well-formed and report the method used. Make a deliberate error and report the error message.

Create a corresponding XMLSchema file (.xsd) that contains the following constraints:

- the car registration number consists of 3 uppercase alphabetic letters, followed by a hyphen and 3 digits;
- the year of manufacture is between 1995 and 2013 inclusive
- for the purposes of this exercise, the colour is restricted to red, white, black and silver

Use the .xsd file to validate your .xml file. Test the validation of the .xml file by breaking each constraint in turn and report the results. Also deliberately invalidate the .xml file and report the response.

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Task supported by Topic 9

Create an XSLT stylesheet file (.xsl) that supports the display of the data. The data is to be displayed in alphabetic order of car make.

Task supported by Topic 10

Create new DOM documents for each of your .xml file and .xsl file. Use these to generate output to the browser. Comment on the result.

Research

Access the XML DOM Tutorial at http://www.w3schools.com/dom/dom_nodes_set.asp Under the 'Manipulate Nodes' heading study the 'Get Values' and 'Change Nodes' sections. It will be important to have an understanding of the Dom Node Tree from Topic 10 prior to this study. Write your own code to show that you can both retrieve the value of the colour of the first car in your XML file and change its value.

Report contents

- 1) Diagram of data table.
- 2) Check that XML file is well-formed.
- 3) What messages are sent if not well-formed?
- 4) Check that XML file is valid.
- 5) What messages are sent if XML file is not valid?
- 6) What messages are sent if constraints are not met by the data?
- 7) How is the .xsd file validated?
- 8) Comment on the output provided by your two DOM documents.
- 9) Draw a diagram of the DOM tree associated with the .xml file.
- 10) Give details of any assistance received (apart from teaching staff).

Additional task for ITECH6224 students

On the topic of "Advantages of extensible files" identify four (4), relevant, independent resources. Use these resources to discuss the topic in about 500 words. Take care to cite appropriately.

Further details

Refer to the Course Description for details of submission to Moodle, late assignments, extensions, special consideration, plagiarism, student support, presentation of academic work and adopted reference style.

Submission

All files should be zipped and uploaded to Moodle by the due date and time.

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Marking Guide

Term 2, 2013

Name _____ ID _____ Marker _____

Criterion	Maximum	Obtained
Initial data – requirements satisfied	1	
.xml file	5	
- accurate	3	
- well-formed	2	
.xsd file	5	
- validates .xml file	2	
- constraints implemented accurately	3	
.xsl file	4	
- effective	2	
- sorting implemented correctly	2	
DOM documents	4	
- generated correctly	2	
- output accurate	2	
Research	8	
- Get value	2	
- Change value	2	
Advantages of extensible files (ITECH6224 only)	10	
- Content	6	
- Writing style	2	
- Adherence to academic standards	2	
Report	10	
- 1 mark per section		
Quality of code – layout, choice of names, etc.	3	
Totals		
- ITECH3224	40	
- ITECH6224	50	
Final mark	20	

Final mark correct to 1 decimal place (rounded up)