T-75.1110 XML-kuvauskielten perusteet Exam, 21.12.2012

Write your name, student number and the year when you performed the exercises on to every paper.

1. Explain the following concepts in short. (6 p)

a) Validation of an XML document

b) XLink

c) Well-formedness of an XML document

d) Namespace

e) XForms

f) Metalanguage

2. Define a simple XML language for an archive database consisting of cases and documents. Each document contains the following: ID (mandatory), name (mandatory), name of the person responsible (mandatory, can contain several), date of creation (mandatory), and status (mandatory, two possible values: secret or public). Each case contains the following: name (mandatory), the documents linked to the case (mandatory, can contain several), and date of completion (non-mandatory). You can also add other definitions as needed. Try to avoid unnecessary duplication of data in cases where several documents are linked to the same case or vice versa.

You can use either DTD or XML Schema. You will not lose points for small syntactical typos – the important thing is to concentrate on defining the structures. Give an example XML document highlighting the most important features of the language. What benefits would XML Schema offer over DTD in the definition of this particular language? (6 p)

3. What are DOM and SAX? (1 p.) Tell of the differences between them. (2 p)

4. Tell about DocBook, what it can be used for and what problems it has. (3 p)

5. How can XML be utilized in Web services? (3 p)

6. Essay: Linked data and the semantic web emphasize the role of metadata and machine-understandability in the development of the web. Tell of this phenomenon and whether it can be seen as a continuation of the development of XML. Remember to justify your arguments. (6 p)

Bonus: Give course feedback through the form found in Noppa to gain a bonus point that is valid in this exam as well as the January's.