**Web Development Project**

**This assignment is worth 40% of your overall mark.**

The assignment is project based and each project group will have a maximum of 2 participants.

Your project application code should be uploaded in a zip folder onto Moodle. A project coversheet should give a brief overview of the project and include a list of project team members.

All projects must be submitted to your Programme

Coordinator on/before the deadline date. Projects submitted after the deadline will incur penalties.

**Project Details**

You are required to choose an area of interest to develop a web application based on XML.

In this project, sample content will be generated for a particular topic. The content will be stored in

an **XML** format in a **database**. The XML content will have associated meta-information to describe

the different ways in which the information can be presented to users of the data. The application

should exhibit functionality to allow some of the presented information to be edited. It should also

be possible to update the database with the edited information.

For example, a Wiki type application may be developed on a particular topic such as your favourite

football team. Content could include images of the team players, player transfer history,

backgrounds, reviews of skills, history of the football club etc.

***PRESENTATION OF THE PROJECT IS MANDATORY*** *–*

FAILURE TO PRESENT WILL RESULT IN ***ZERO*** MARKS FOR THE PROJECT

**Tasks**

1. Create a project proposal document. Your project proposal document should provide the

following:

a. An introduction to the project subject matter.

b. The goals of the project.

c. The strategy that will be employed to meet the stated project goals.

d. The key characteristics of your project in terms of functionality.

e. A list of the project deliverables that will be submitted on project completion.

(5 marks)

2. Develop content related to the topic. Content with at least 5 nested levels should be sufficient.

The content should initially be stored as a set of XML documents in an appropriate location on

disk.

**(5 marks)**

3. Create an XSLT transformation file that converts the raw XML data into presentable web

pages.

**(5 marks)**

4. . Create XML Schema files that validate the XML documents you have created

**(5 marks)**

5. Create a server-side Java application that handles the transformation of your XML data files

into a dynamic web application using TrAX (Transformation API for XML ) and appropriate

XSLT stylesheets.

**(15 marks)**

6. Modify the server-side application to include advanced stylesheet options such as including

other stylesheets and parameter passing.

**(10 marks)**

7. Create an eXist database and store your XML content in the database. Modify the serverside application so that the XML content data is retrieved from the database rather than

from XML files on disk.

**(10 marks)**

8. Modify the server-side application to create a Rich Internet Application. Ajax functionality

should be used to provide interactive effects on the webpages (e.g., if the mouse hovers

over a record ID then use Ajax to request detailed information from the webserver and

display the summary data using an in page preview).

**(15 marks)**

9. Ajax functionality should also be used to provide dynamic data functionality on the

webpages (e.g., if a record is being updated on a webpage then use Ajax to perform data

validation / in-page updates to the database).

**(15 marks)**

10. Create a **presentation** and demonstrate the project.

**(15 marks)**