School of Systems Engineering
Assessed Coursework Set Front Page

Module code: SE2FD11
Lecturer responsible: John Roberts
Coursework description: Data transfer using XML
Work to be handed in by 10:30 on: Thursday the 25th of February via Blackboard
Work will be marked and returned by: Friday the 18th of March

NOTES:

This coursework should be submitted on-line through Blackboard Learn in either a .doc or .pdf format.

By submitting this work you are certifying that it is all your own work and that use of material from other sources has been properly and fully acknowledged in the text. You are also confirming that you have read and understood the University's Statement of Academic Misconduct, available on the University web-pages.

If your work is submitted after the deadline, *10%* of the maximum possible mark will be deducted for *each* working day (or part of) it is late. A mark of zero will be awarded if your work is submitted more than 5 working days late. You are strongly recommended to hand work in by the deadline as a late submission on one piece of work can impact on other work.

If you believe that you have a valid reason for failing to meet a deadline then you should complete an Extenuating Circumstances form and submit it to the Student Information Centre *before* the deadline, or as soon as is practicable afterwards, explaining why.

MARKING CRITERIA

a) The table below shows what is typically expected of the work to obtain a given mark.

Classification Range	**Typically the work should meet these requirements**
First Class (>= 70%)	Work shows a full and complete understanding of the uses and principles of XML and the XML DOM
Upper Second (60..69)	Work shows a functional knowledge of XML and the XML DOM sufficient to the task
Lower Second (50..59)	Work shows a functional knowledge of the XML, but limited knowledge of the XML DOM.
Third (40..49)	Work shows a functional knowledge of XML, but shows no evidence of the XML DOM
Pass (30..39)	Work shows a limited understanding of XML and the XML DOM

b) The table below shows the mark scheme for the assessment.

Part of Submission	**Marks Available**
Introduction	5 marks
XML document format design	10 marks
Program design and functionality	10 marks
Report formatting and readbility	5 marks

SE2FD11 coursework: XML data transfer

Assessment arrangement
This assignment will contribute 30% marks to the overall module.

Overview
One of the stated design goals of XML is to promote pass information between programs while still being human-readable. An XML document (providing it is well-formed) can be produced, parsed and analysed by one of the many XML-DOM libraries available to users regardless of source. This assessment is designed to demonstrate the use of XML tools to manipulate XML documents.

Scenario
The Greenvale Police Department (GVP) is intending to improve their crime-reporting system, and wish to design a data transfer system for this purpose. They wish for their officers to have a system for recording the details of a reported crime, such as victims, witnesses and evidence. This system must be able to store crime-specific information - items stolen in theft, building address for graffiti, and similar. In addition, these reports are going to be viewable by the court system, as part of the judiciary process.

Requirements
For this assignment, you are required to produce TWO short programs.

- Program 1: a program that stores information on reported crimes in XML format.
- Program 2: retrieving crime data stored by program 1 and generating a court report

Programs 1 and 2 must be able to produce/read an XML document for three distinct types of crime, i.e. three crimes with largely different data storage requirements. Both programs may be written in the language of your choice; Python or C# are recommended. The majority of marks will be awarded for proper use of the XML DOM and related libraries. Although an XML schema is not required for this project, you may find one useful; include it in the report if used.

You will submit a short report demonstrating the functionality of these programs and examining design choices made. This report should consist of an introduction, an explanation of the XML data format used and a demonstration and explanation of your two programs functionality, including examples of the XML files. It is recommended that you focus on the use of XML in the project; you are not required to detail the design of user interfaces, file IO (unless it relates to XML), etc. Please include appropriate snippets of code and example output from both programs.

Advanced Databases mark breakdown

Introduction

- 0: Introduction not present
- 1: Introduction is cursory at best
- 2: Introduction states the objective of the coursework
- 3: Introduction states the objective of the coursework and gives a brief overview of the technologies used.
- 4: Introduction states the objective of the coursework and gives an overview of the technologies used, including reasoning behind the choice of technologies
- 5: As four, but also includes evidence of research into the wider context of the coursework

XML design

- 0: No XML is present
- 1-2: Candidate has presented XML that is not well-formed or otherwise functional
- 3-4: Candidate has presented XML that is well-formed, but does not show evidence of understanding of XML (lack of nesting, improper use of element structure, ect)
- 5-6: Candidate has shown some use of proper and appropriate nesting and design of data. Some justification of decisions is present.
- 7-8: Candidate has shown insight and understanding of the use of XML: all data stored is properly nested and documents are sensibly and effectively structured. Design decisions are justified
- 9-10: Candidate has shown excellent understanding of the use and philosophy of XML, and has gone beyond the lecture notes in work.

Program design

- 0: No program or evidence of coding is present.
- 1-2: A very limited set of programs that does not produce appropriate output.
- 3-4: A limited set of programs that do not use XML appropriate functions or libraries.
- 5-6: A functional set of programs that produces appropriate output and has shown some use of XML appropriate libraries, but does not show deeper understanding into the nature of these libraries. Some justification of design decisions is given.
- 7-8: A fully functional set of programs that are efficiently designed and implemented, and show good understanding of XML libraries. Some use of flow control and tree traversal is present
- 9-10: A fully functional set of programs that show full and appropriate use of functions, flow control and XML tree traversal; program shows evidence of research outside the course content.

Formatting

- 0: No apparent formatting.
- 1-2: Report is difficult to read and follow.
- 3: Report is clearly split into sections. Screenshots and code snippets are appropriately placed and do not break flow.
- 4: Report is well structured; screenshots are captioned, large blocks of code are moved into an appendix, some referencing is present; page numbers and appropriate headers and footers are present.
- 5: Report formatting is of publishable quality; screenshots are properly captioned and referenced in text, footnotes and citations are appropriately used and report is generally clear and easy to follow.