2024 / 25

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Module Descriptor

Enterprise Data Interchange (Computing and Mathematics)

Enterprise Data Interchange (A33861)

Short Title: EDI
Department: Computing and Mathematics
Credits: 5 **Level:** Advanced

Description of Module / Aims

XML is one of the most popular industry formats for business document publishing, web application development and digital content management. It is also a critical part of the web environment and web standard stacks and is the basis for emerging next-generation document, web, and e-business application strategies. This course focuses upon providing the student with an understanding of the XML standard syntax and related standards and how these can be used to build enterprise applications. This course also focuses on related standards for interoperability and automated enterprise information such as JavasScript Object Notation (JSON) and APIs.

Programmes

		stage/semester/status
ENTR-0044	Higher Diploma in Science in Business Systems Analysis (WD_KBUSY_G)	1 / 2 / M

Indicative Content

- XML origins and the W3C including objectives and advantages of XML
- The XML language: XML Syntax elements and components, DTs, markups and stylesheets
- Authoring an XML application: well-formed and valid XML script, XML authoring tools and interfaces, XSL, XSLT, XPath, templates
- XML Schemas: Advantages of using schemas, DTD vs XML schemas, structure of a schema, namespaces, common attributes for schema elements, data types, XML styles, schema element declarations, overview of a schema.
- XML Applications and Uses: XML and EDI standards
- Limitations of XML
- Related Standards for interoperability and automated enterprise information exchange e.g.Javascript objects, JSON objects, accessing simple APIs
- Comparison between JSON and XML.

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Evaluate the importance of XML as a solution for enterprise data interchange across web-platforms.
2. Construct basic XML applications.
3. Appraise key ideas of XML applications engineering.
4. Access a simple JSON API using Javascript.
5. Compare XML as a a data interchange format to JSON as a data interchange format.

Learning and Teaching Methods

- Lectures addressing important theoretical and practical issues for web-enabled systems applications.
- Practical, hands on experience using XML authoring tools and systems engineering techniques.
- Practical, hands on experience using JSON to access a simple API.
- Case studies.
- For online delivery the lectures and practicals will be a combination of comprehensive rich media instructional content (notes), interactive synchronous video (live webinars/classes) and asynchronous interactive video playback (on-demand).

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	24	24
Practical	24	24
Independent Learning	87	87

Assessment Methods

	Weighting	Outcomes Assessed
Continuous Assessment	100%	
In-Class Assessment	25%	2
In-Class Assessment	25%	4
In-Class Assessment	50%	1,3,5

Assessment Criteria

<40%: Unable to interpret and describe key concepts related to XML and JSON and its applications.

40%–49%: Ability to interpret and describe key concepts of XML and JSON and their applications.

50%–59%: Ability to discuss key concepts associated with XML and its applications combined with an ability to discover and integrate related ideas (such as important applications of XML).

60%–69%: Ability to independently solve problems associated with authoring XML and applying XML in various contexts including experimentation with the appropriate skills and tools and/or external references not explicitly offered in the course materials and/or rework these references in new ways.

70%–100%: All the above to an excellent level including an ability to analyse and design XML applications to a high standard. Demonstrate a high level of appreciation of how XML applications and related-standards interplay with other aspects of web systems, including those not explicitly stated in the course materials or a reworking of course material references in new way(s).

Essential Material(s)

- "W3 Schools Tutorials: Introduction to XML." https://www.w3schools.com/xml/xml_whatis.asp
- "W3 Schools Tutorials: What is JSON?." https://www.w3schools.com/whatis/whatis_json.asp

Supplementary Material(s)

- V, D. *JSON: Main Principles*. Amazon: CreateSpace Independent Publishing Platform (29 June), 2016.

Requested Resources

- Computer Lab: BYOD Lab