Department of Information Science

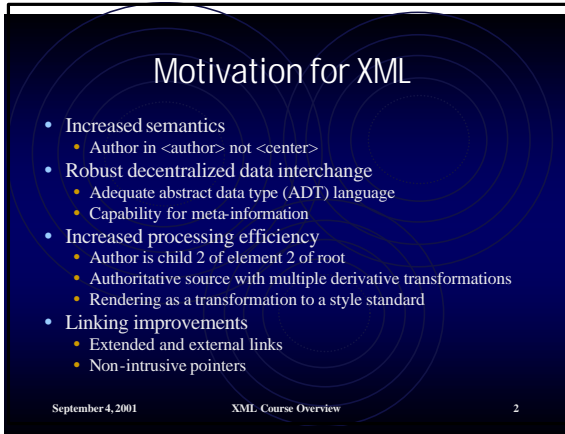## XML Course Overview

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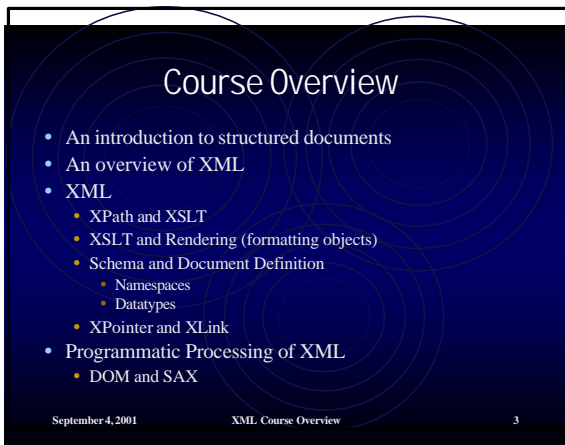University of Pittsburgh
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Motivation for XML

- Increased semantics
  - Author in <author> not <center>
- Robust decentralized data interchange
  - Adequate abstract data type (ADT) language
  - Capability for meta-information
- Increased processing efficiency
  - Author is child 2 of element 2 of root
  - Authoritative source with multiple derivative transformations
  - Rendering as a transformation to a style standard
- Linking improvements
  - Extended and external links
  - Non-intrusive pointers

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Course Overview

- An introduction to structured documents
- An overview of XML
- XML
  - XPath and XSLT
  - XSLT and Rendering (formatting objects)
  - Schema and Document Definition
    - Namespaces
    - Datatypes
  - XPointer and XLink
- Programmatic Processing of XML
  - DOM and SAX

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What is not covered

- Metadata models for XML
  - Models
    - RDF
    - Topicmaps
  - Implementations
    - Dublin Core/Warwick Framework
    - PICS
- Analysis and Design using XML
  - Document Content Models
  - Transformation and Specialized Applications (WAP)
  - Business Processes and Object Access
    - Simple Object Access Protocol (SOAP)
    - Universal Description, Discovery, and Integration (UDDI)

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Resources

- Books
  - XML Bible, Elliotte Harold, (2001) ISBN: 0764547607
  - Professional XML, (2000) Wrox Press; ISBN: 1861003110
  - Beginning XML, (2000) Wrox Press; ISBN: 1861003412
- Tools
  - LT XML version 1.2 (a development tool set)
    http://www.ltg.ed.ac.uk/software/xml/
  - The Apache XML Project (Xerces & Crimson - XML parsers
    ; Xalan - XSLT processor; FOP - XSL formatting objects;
    SOAP - Simple Object Access Protocol)
    http://xml.apache.org/

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A Word of Preparation

- XML is a set of specifications or standards
- While most have achieved some level of stability,
  - There are still competing approaches
  - Some evolution of the specification is normal
  - The standards are defined with an eye to extensibility
- Even with stable standards, tools need to implement the
  specification and it is likely:
  - Some tools will be non- or minimally compliant
  - Some tools will implement supersets of functionality

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