Digital Methods in Humanistic Research

Schedule

Text Encoding Basics: eXtensible Markup Language (XML)

Tuesday, August 26 Class:

- What is (computational) Digital Humanities?
- Introduction to XML: hierarchy, well-formedness, elements and attributes
- Using oXygen to mark up Lord of the Rings quotes.

Homework:

- Install oXygen on your personal computer (licence key provided on Canvas)
- Install Visual Studios Code
- Read An even gentler introduction to XML
- XML exercise 1: Copy the text of *one* letter by either Oscar Wilde (please close and ignore the pop-up) or Anton Chekhov and mark it up in XML using and employing whatever markup you consider appropriate. In this and all other assignments, follow our file-naming conventions.

Thursday, August 28 Class:

- Types of XML markup: descriptive, presentational, procedural
- AI and coding
- Project guidelines

Homework:

- Submit questionnaire on research interests
- XML exercise 2: Mark up a text of your choice (any genre, manageable size, foreign languages welcome)
- Read the linked articles in "Learning Git: Part One".

Associated Recitation (Tuesday or Thursday)

- Sample course project
- Homework workshop

Tuesday, September 2 Class:

- Command line: Friend, not foe
- Conceptual introduction to Git

Homework:

- Complete "Learning Git: Part II," which teaches you how to set up a GitHub account.
- Read You aren't a beginning XML developer anymore to help prepare for the XML test.

Schemas: RelaxNG

Thursday, September 4 Class:

- What is a "schema"?
- Relax NG (Pasta recipe)
- Quiz: XML basics (handwritten preface to the XML test)

Homework:

- XML test (all tests completed over the weekend, due before next class)

Associated Recitation (Tuesday or Thursday)

- Form project teams
- Go over project team norms: weekly meeting times, communication format, etc.

Tuesday, September 9   Class:

- Relax NG, cont.

Homework:

- Relax NG exercise 1: Write a Relax NG schema for one of the XML documents you created for an earlier assignment (XML exercise 1, 2, or 3; you may modify your XML if you wish) and upload both your XML and your schema file.
- Complete "Learning Git: Part III," which teaches you how to install Git locally on your personal computer.
- First project report

Thursday, September 11   Class:

- Relax NG, cont.

Homework:

- Read our Relax NG content models tutorial to learn about modeling mixed content and empty elements.
- Relax NG exercise 2: Choose a small text, perform document analysis, write a schema, mark up the text according to the schema, and upload both your XML and your schema file.

Associated Recitation (Tuesday or Thursday)

- Git: practice and troubleshooting

String Matching: Regular Expressions (Regex)

Tuesday, September 16   Class:

- Lecture: Regex, the superpowered search /replace language
- Lecture: "language" versus "program / app"
- Walkthrough: Regular expressions (Sonnet 60)

Homework:

- Read the regex mini-tutorial at http://www.regular-expressions.info/quickstart.html.
- Regex exercise 1

Thursday, September 18   Class:

- Regular expressions (word list)
- AI-assisted regular expressions
- Quiz: Schema basics (handwritten preface to the RelaxNG test)

Homework:

- Complete RelaxNG test over the weekend
- Read Regex tips (Read the first half, before the Using regex in XSLT section, to acquaint yourself with what's there, but don't try to memorize it all at once. You can skip the second half, about regex in XSLT.)

Associated Recitation (Tuesday or Thursday)

- Project workshop: centering our research questions

Tuesday, September 23 Class:

- Advanced Regex (Scarlet Letter)

Homework:

- Regex exercise 2

Web Technologies: HTML, CSS, Javascript

Thursday, September 25 Class:

- Lecture: XML versus its subsets (HTML, TEI)

Homework:

- Read Learn CSS layout
- HTML/CSS exercise 1: Create and upload your first HTML and CSS pages Github Pages (see "Getting started with Git Pages"). The content and look of your webpage is up to you, but should demonstrate usage of several XHTML element types as well as CSS styling. Please submit the URL of your page to Canvas.

Tuesday, September 30 Class:

- Lecture: Do's and don'ts of AI assistance for web design
- Walkthrough: CSS Box Model & Flexbox
    - files for in-class exercise: `git clone https://github.com/pickettj/teaching.git`

Homework:

- HTML/CSS exercise 2: Enhance and expand your HTML web page and associated CSS from the last assignment (focus this time on structural elements) and upload them as new files with new names (see the additional instructions about formatting, naming, and uploading your files). *Do not overwrite your files from the first HTML assignment.*
- Read What can XPath do for me?

Associated Recitation (Tuesday or Thursday)

- The Text Encoding Initiative

Navigating Textual Markup: XPath

Thursday, October 2 Class:

- Lecture: Hierarchical "paths"
- Walkthrough: XPath: overview, paths, axes (fables.xml)

Homework:

- XPath exercise 1

Tuesday, October 7 Class:

- Lecture: XPath predicates and functions
- Walkthrough: Develop and test (!) path expressions one step at a time

Homework:

- Read The XPath functions we use most
- XPath exercise 2

Associated Recitation (Tuesday or Thursday)

- Web design workshop:
    - A complete guide to Flexbox
    - W3Schools CSS Grid layout module

Thursday, October 9   Class:

- Walkthrough: XPath

Homework:

- XPath exercise 3

Tuesday, October 14   Class:

- Walkthrough: XPath

Homework:

- Complete XPath test

Associated Recitation (Tuesday or Thursday)

- Advanced XPath: work through XPath exercise 4

Textual Transformation: XSLT

Thursday, October 16   Class:

- Lecture: How to look stuff up
- Lecture: XSLT and XPath Overview

Homework:

- Read "XSLT Basics"

Tuesday, October 21   Class:

- XSLT templates
- XPath expressions and XPath patterns

Homework:

- Read Thinking in algorithms
- XSLT exercise 1

Associated Recitation (Tuesday or Thursday)

- First XSLT homework troubleshooting workshop

Thursday, October 23   Class:

- Lecture: XSLT program structure and design

Homework:

- XSLT exercise 2
- Read XSLT, part 2: conditionals and push and pull
- Read Developing an XSLT stylesheet

Tuesday, October 28   Class:

- Walkthrough: XSLT homework

Homework:

- XSLT exercise 3
- Read Attribute value templates

Associated Recitation (Tuesday or Thursday)

- Project workshop: from XML to your project website using XSLT

Thursday, October 30   Class:

- Walkthrough: XSLT push and pull

Homework:

- Read XQuery Drive-by
- Read Modal XSLT
- XSLT exercise 4

Tuesday, November 4   Class:

- David Birnbaum Guest Lecture: XQuery "Drive-by" Tutorial

Homework:

- XSLT exercise 5

Associated Recitation (Tuesday or Thursday)

- XSLT for projects

Thursday, November 6   Class:

- XSLT: Map Value Pairs
- XSLT: Batch Processing — clone git repo with example files

Homework:

- XSLT Test

Text to Images: Scalable Vector Graphics (SVG)

Tuesday, November 11   Class:

- SVG

Homework:

- SVG exercise 1
- Read Viewbox tutorial: an introduction to the SVG coordinate space

Thursday, November 13   Class:

- SVG

Homework:

- SVG exercise 2 (Remember that you should upload the XSLT stylesheet that you used to transform your document, not the SVG output of the transformation)

Associated Recitation (Tuesday or Thursday)

- SVG for projects workshop

Tuesday, November 18   Class:

- SVG

Homework:

- SVG exercise 3

Thursday, November 20   Class:

- Crash course on XML for geospatial mapping

Homework:

- Project sprint
- SVG test

Associated Recitation (Tuesday or Thursday)

- Project Workshop

November 24-28: Thanksgiving Break (no class)

Tuesday, December 2   Class:

- Project Showcase

Thursday, December 4   Class:

- Project Showcase

Associated Recitation (Tuesday or Thursday)

- *does not meet*