Modelling Web Pages

Francesca Tomasi | 04/07/2019
WORKSHOP
• Project work in the Digital Humanities
• Manipulating the lifecycle of digital objects
• Markup languages and the dissemination of research results
• HTML and the logical components of a Web interface
• CSS and layout manipulation
• Introduction to Bootstrap

TRAINING
Creating my Web
Project Work in the DH
Peaceful living together in a multi-religious society is increasingly coming under pressure and we urgently need to deal with this.

The Digital Humanities Stack (from Berry and Fagerjord, *Digital Humanities: Knowledge and Critique in a Digital Age*, 2017)
2004: The terminological shift

<table>
<thead>
<tr>
<th>Part I Infrastructures</th>
<th>Part II Creation</th>
<th>Part III Analysis</th>
<th>Part IV Dissemination</th>
<th>Part V Past, Present, Future of Digital Humanities</th>
</tr>
</thead>
</table>
“All **digital projects** have certain **structural features in common.** [...] 

We talk about the “back end” and “front end” of digital projects, the workings under the hood (files on servers, in browsers, databases, search engines, processing programs, and networks) and the **user experience**. 

Because all display of digital information on screen is specified in HTML, *hyper-text markup language*, **all digital projects have to produced HTML as their final format**. 

All digital humanities projects are built of the **same basic structural components**, even though the degree of complexity that can be added into these components and their relations to each other and the user can expand exponentially. 

The **basic elements**: a repository of files or **digital assets**, a kind of **information architecture or structure**, a suite of **services**, and a **display** for user experience. While this is deceptively simple and reductive, it is also useful as a way of thinking about the building of digital humanities projects. At their simplest, digital projects can be stored in an information architecture such as a database or **file system** (structure) where they can be **accessed** (services) and **called by a browser** (use / display).”

The CO Lifecycle
A digital collection
What do we need to know on (and for) the lifecycle model

- Standard file formats
- **Standard languages**
- Data structure (i.e. database Web based)
- Data linking (hypertext)
- Preservation
- Access and Query
- User interface design + interaction
- Services
A markup language is...

- A set of tags nested in the page (XML and HTML)
- Declarative/Descriptive (XML and HTML)
- Syntax (XML) and DTD/Schema (HTML)
- Hierarchy and nesting (XML and HTML)
- For document description (XML)
- For Web dissemination (HTML)
- Structuring the page (XML and HTML)
- Give «semantics» to string of characters (HTML5)
Relationships between declarative/descriptive markup languages and the role of HTML(5)
# HTML History

Since the early days of the World Wide Web, there have been many versions of HTML:

<table>
<thead>
<tr>
<th>Year</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>Tim Berners-Lee invented www</td>
</tr>
<tr>
<td>1991</td>
<td>Tim Berners-Lee invented HTML</td>
</tr>
<tr>
<td>1993</td>
<td>Dave Raggett drafted HTML+</td>
</tr>
<tr>
<td>1995</td>
<td>HTML Working Group defined HTML 2.0</td>
</tr>
<tr>
<td>1997</td>
<td>W3C Recommendation: HTML 3.2</td>
</tr>
<tr>
<td>1999</td>
<td>W3C Recommendation: HTML 4.01</td>
</tr>
<tr>
<td>2000</td>
<td>W3C Recommendation: XHTML 1.0</td>
</tr>
<tr>
<td>2008</td>
<td>WHATWG HTML5 First Public Draft</td>
</tr>
<tr>
<td>2012</td>
<td>WHATWG HTML5 Living Standard</td>
</tr>
<tr>
<td>2014</td>
<td>W3C Recommendation: HTML5</td>
</tr>
<tr>
<td>2016</td>
<td>W3C Candidate Recommendation: HTML 5.1</td>
</tr>
<tr>
<td>2017</td>
<td>W3C Recommendation: HTML5.1 2nd Edition</td>
</tr>
<tr>
<td>2017</td>
<td>W3C Recommendation: HTML5.2</td>
</tr>
</tbody>
</table>
HTML is...

- HTML is the standard markup language for creating Web pages
- HTML stands for Hyper Text Markup Language
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements are represented by tags
- HTML tags label pieces of content such as "heading", "paragraph", "table", and so on
- Browsers do not display the HTML tags, but use them to render the content of the page

From: https://www.w3schools.com/html/html_intro.asp
HTML is for describing...

The basic elements of an HTML page are:

• A text header, denoted using the `<h1>`, `<h2>`, `<h3>`, `<h4>`, `<h5>`, `<h6>` tags.
• A paragraph, denoted using the `<p>` tag.
• A horizontal ruler, denoted using the `<hr>` tag.
• A link, denoted using the `<a>` (anchor) tag.
• A list, denoted using the `<ul>` (unordered list), `<ol>` (ordered list) and `<li>` (list element) tags.
• A table, denoted using the `<table>`, `<tr>` (table row) and `<td>` (table data) tags.
• An image, denoted using the `<img>` tag
• A divider, denoted using the `<div>` tag
• A text span, denoted using the `<span>` tag

Each element can also have attributes - each element has a different set of attributes relevant to the element. There are a few global elements, the most common of them are:

• `id` - Denotes the unique ID of an element in a page
• `class` - Denotes the CSS class of an element
• `style` - Denotes the CSS styles to apply to an element

Let’s start with our tutorial: https://www.w3schools.com/html/
Training

Reproduce this simple page

- Open SublimeText
- Add the DOCTYPE
- Create the structure (HTML, HEAD and BODY)
- Save in .html format
- Open with a browser
- Copy and paste the text from the .pdf file to the .html file and add the appropriate tags
- Save the source code and refresh in the browser

TAGS TO ADD
2 Levels of title
5 Sections
6 Paragraphs
1 Ordered List
1 Unordered List
5 Horizontal rules
1 Table (1 col, 2 rows)
1 External Link
5 Internal link (1 double cross reference)
1 Image
Some Persnames, Orgnames, Dates
1 Superscript, some Entities, and some Acronyms (search the appropriate tags...)
HTML5
New HTML5 tags

The most interesting new HTML5 elements are:

- New semantic elements like `<header>`, `<footer>`, `<article>`, `<section>`, `<aside>`.
- New attributes of form elements like number, date, time, calendar, and range.
- New graphic elements: `<svg>` and `<canvas>`.
- New multimedia elements: `<audio>` and `<video>`.

From: https://www.w3schools.com/html/html5_intro.asp
Edit This Code:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <title>HTML5</title>
  <meta charset="utf-8">
  <style>
    body { font-family: Verdana, sans-serif; font-size:0.8em; }
    header, nav, section, article, footer { border:1px solid grey; margin:5px; padding:8px; }
    nav ul { margin:0; padding:8; }
    nav ul li { display:inline; margin:5px; }
  </style>
</head>
<body>
  <header>
    <h1>HTML5 Skeleton</h1>
  </header>
  <nav>
    <ul>
      <li><a href="#html">HTML Semantic</a></li>
      <li><a href="#html5">HTML5 Elements</a></li>
      <li><a href="#html5-canvas">HTML5 Graphics</a></li>
    </ul>
  </nav>
  <section>
    <h2>Famous Cities</h2>
    <article>
      <h2>London</h2>
      London is the capital city of England. It is the most populous city in the United Kingdom, with a metropolitan area of over 13 million inhabitants.
    </article>
    <article>
      <h2>Paris</h2>
      Paris is the capital and most populous city of France.
    </article>
    <article>
      <h2>Tokyo</h2>
      Tokyo is the capital of Japan, the center of the Greater Tokyo Area, and the most populous metropolitan area in the world.
    </article>
  </section>
  <footer>
    ©2014 W3Schools. All rights reserved.
  </footer>
</body>
</html>
```
Web page architecture
CSS
What’s CSS?

• CSS stands for Cascading Style Sheets
• CSS describes how HTML elements are to be displayed on screen, paper, or in other media
• CSS saves a lot of work. It can control the layout of multiple web pages all at once
• External stylesheets are stored in CSS files

From: https://www.w3schools.com/css/css_intro.asp
CSS is for managing...

- Color
- Background
- Dimension
- Font
- Text
- Link
- Icon
- List
- Table
- Positioning
- Border
- Margin
- Padding
- Floating
- Overflow

Let’s start with our tutorial: https://www.w3schools.com/css/

Another important page: https://www.w3schools.com/howto/
Training

We need to create the CCS file for our page. It has to look like this page:

- Open SublimeText
- Save in .css format
- Rules to produce
- Add the link to the external .css file in the .html document
- Save the sources code and refresh in the browser

Background-color (TABLE, just one HR)
Color (H1, SPAN, links in the TOC)
Font-face (H1 differs from the rest of the text)
Floating (IMG)
Text-align (P, H1, TABLE)
Margin/Padding (IMG/P)
Font-size (just the first P)
Border (TABLE, ABBR)
Height (just one HR)
Bootstrap
What’s Bootstrap(4)?

• Bootstrap is a free front-end framework for faster and easier web development
• Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plugins
• Bootstrap also gives you the ability to easily create responsive designs

https://www.w3schools.com/bootstrap4/bootstrap_get_started.asp
Creating My Web
Let’s have a look at this simple template: https://www.w3schools.com/bootstrap4/bootstrap_templates.asp

We’re going to create our personal Website!

And, if we’ll have time we’re going to work on other templates: https://html5up.net/
A starting community that aims to create a unique and groundbreaking research infrastructure on religious studies.