

Tools Seminar

Week 2 - Markup Languages & Scientific Literature

Hongzheng Chen

Nov 22, 2019

1 Markup Languages

2 Scientific Literature

3 Summary

1

Markup Languages

Markup Languages

A markup language is a system for **annotating a document** in a way that is syntactically distinguishable from the text. — Wikipedia

Some commonly used markup languages:

- XML (Extensible Markup Language)
- HyperText Markup Language (HTML), Markdown
- T_EX, L^AT_EX

Data serialization language:

- JSON (JavaScript Object Notation)
- YAML (YAML Ain't Markup Language)

XML

```
<?xml version="1.0" encoding="UTF-8"?>
<note>
  <from>Reddie</from>
  <to>Cedric</to>
  <heading>FAIL</heading>
  <body>You fail the exam!</body>
</note>
```

- Inherent tree/graph representation
- Resource Description Framework ([RDF](#)) → Knowledge graph

JSON & YAML

Commonly used in data serialization (left: JSON, right: YAML)

```
{
  "Notes": {
    "Note one": {
      "from": "Reddie"
      "to": "Cedric"
      "body": "Hi"
    },
    "Note two": {
      "from": "Cedric"
      "to": "Reddie"
      "body": "Hi too"
    }
  }
}
```

```
# Notes
- Note one:
  from: Reddie
  to: Cedric
  body: Hi

- Note two:
  from: Cedric
  to: Reddie
  body: Hi too
```

A real-life configuration example:

- Set your username & password in a yaml file
- Load the sensitive information from yaml
- `.gitignore` it to prevent leaking personal information

HTML

Basic elements of HTML: [w3school](http://www.w3school.com.cn) (let's view page source)

- `<h1>This is a heading</h1>`
- `<p>This is a paragraph.</p>`
- `This is a link`
- ``

* Notice nobody directly writes HTML to render webpages nowadays

Markdown

“to write using an easy-to-read and easy-to-write plain text format,
optionally convert it to structurally valid HTML” — John Gruber

Markdown - A very lightweight markup language

- Often used to format readme files (`README.md`), e.g. Github
- For writing messages in online discussion forums, e.g. zhihu, A-tier conference submission system
- To create rich text using a plain text editor, e.g. taking notes


Markdown

Online Preview: [Dillinger](#) (Actually, there're many)

- #, ##, ###, ####
- ***bold***, ***italic***, 'monospace'
- 1. 2. 3., * * *
- [url name](http://url.com)
- ![image](image_path)
- > (quote)
- ```cpp ```
- Inline HTML is also supported

Variant: [Github Flavored Markdown \(GFM\)](#)

Markdown & HTML (Fig from wiki)

Text using Markdown syntax	Corresponding HTML produced by a Markdown processor	Text viewed in a browser
<p>Heading</p> <p>=====</p> <p>## Sub-heading</p> <p>Paragraphs are separated by a blank line.</p> <p>Two spaces at the end of a line produces a line break.</p> <p>Text attributes <code>{tailc_}</code>, bold, <i>monospace</i>.</p> <p>Horizontal rule:</p> <p>---</p> <p>Strikethrough:</p> <p>strikethrough</p> <p>Bullet list:</p> <ul style="list-style-type: none"> * apples * oranges * pears <p>Numbered list:</p> <ol style="list-style-type: none"> 1. lather 2. rinse 3. repeat <p>An <code>[example]</code>(http://example.com).</p> <p>! <code>[Image]</code>(<code>icon-pictures.png</code> "icon")</p> <p>> <code>Markdown uses email-style > characters for blockquoting.</code></p> <p>Inline <code><abbr title="Hypertext Markup Language">HTML</abbr></code> is supported.</p>	<pre><h1>Heading</h1> <h2>Sub-heading</h2> <p>Paragraphs are separated by a blank line.</p> <p>Two spaces at the end of a line
 produces a line break.</p> <p>Text attributes italic, bold, <code>monospace</code>.</p> <p>Horizontal rule:</p> <hr /> <p>Bullet list:</p> apples oranges pears <p>Numbered list:</p> lather rinse repeat <p>An example.</p> <p></p> <blockquote> <p>Markdown uses email-style &gt; characters for blockquote.</p> </blockquote> <p>Inline <abbr title="Hypertext Markup Language">HTML</abbr> is supported.</p></pre>	<p>Heading</p> <p>Sub-heading</p> <p>Paragraphs are separated by a blank line.</p> <p>Two spaces at the end of a line produces a line break.</p> <p>Text attributes <i>italic</i>, bold, <code>monospace</code>.</p> <p>Horizontal rule:</p> <p>Strikethrough:</p> <p>strikethrough</p> <p>Bullet list:</p> <ul style="list-style-type: none"> • apples • oranges • pears <p>Numbered list:</p> <ol style="list-style-type: none"> 1. lather 2. rinse 3. repeat <p>An <code>example</code>.</p> <p></p> <p>Markdown uses email-style > characters for blockquoting.</p> <p>Inline HTML is supported.</p>

Markdown × VS Code

Markdown Preview Enhanced

The screenshot shows the VS Code interface with the 'Tools Seminar' README.md file open. The editor view on the left shows the source markdown, and the preview view on the right shows the rendered HTML.

Tools Seminar

This is a repository of the seminar about tools in computer science.
The schedule is listed below.

	Topic	Main Tools
Week 1	Basic Configuration	VS Code, Linux, git
Week 2	Bibliography Management & Markup language	Zotero, Markdown
Week 3	C/C++ Compile & Runtime Toolchain	gcc, makefile, gdb, perf
Week 4	LaTeX configuration & usage	Texlive, BibTex
Week 5	Python & standard library	anaconda, pip, jupyter
Week 6	Scientific Computing	numpy, matplotlib, MMA
Week 7	Machine Learning	sklearn
Week 8	Deep Learning	pytorch, visdom
Week 9	Visualization	tkz, visio
Week 10	Parallel Computing	OpenMP, MPI, Cilk, SIMD

Acknowledgements

- Tools Seminar in applied mathematics held in PKU

2

Scientific Literature

Official Rankings on CS

- Conference / Journal Ranking: [China Computer Federation \(CCF\)](#)
- University Ranking: [CS Rankings](#)

Top Schools in CS

CS Ranking by [CSRankings](#) (2019.11.19)

- Carnegie Mellon University (CMU)
- Massachusetts Institute of Technology (MIT)
- Univ. of Illinois at Urbana-Champaign (UIUC)
- Stanford University
- University of California - Berkeley (UCB)
- Cornell University
- University of Michigan
- University of Washington
- University of California - San Diego (UCSD)

Paper Resources

All the resources can be accessed with a school IP address

- [IEEE Xplore](#) Digital Library
- [ACM DL](#) Digital Library
- [arXiv](#): Electronic preprints
- [dblp](#): Computer Science Bibliography
- [Google Scholar](#)

For CS, conference >> journal

Paper Organization

Mainly research paper, not survey:

- Title, Author list (first, corresponding)
- Abstract, Keywords
- Introduction
- Background & Motivation
- Methodologies
- Experiments
- Related Work
- Conclusions & Discussions
- Acknowledgments
- References: Once you use others' points of view / results / conclusions, you MUST cite!

* Take TVM [OSDI'18] & GraphDynS [MICRO'19] paper as examples

Bibliography

BibT_EXfile:

- Title
- Authors
- Conference / Journal
- (Book: publisher, pages)
- Year

* *Download citations* from ACM/IEEE

Literature Management

Zotero: collect, organize, cite, and share research

The screenshot shows the Zotero application window. On the left, the 'My Library' pane lists various folders like 'Book Reviews', 'Colonial Medicine', 'Dissertation', 'Science and Empire', 'Teaching', 'Mapping', 'Open Access', 'Text Mining', 'Visualization', 'My Publications', 'Duplicate Items', and 'Trash'. Below this is the 'To Read' list. The main pane displays a list of items with columns for Title, Creator, and Year. The selected item is 'Circulation of Medicine in the Early Modern Atlantic World' by Cook and Walker, 2013. The right pane shows the details for this item, including its title, author, abstract, and publication information.

Title	Creator	Year
Guerre, maladie, empire. Les services de santé militaires en ...	Zaugg	2016
Officiers de santé et soignantes créoles face à la fièvre jaune	Nobl	2016
The Emergence of Tropical Medicine in France	Osborne	2014
Colonial Disease, Translation, and Enlightenment: Franco-Brit...	Charters	2014
Trading in Drugs through Philadelphia in the Eighteenth Centu...	Wilson	2013
The Medicines Trade in the Portuguese Atlantic World: Acquisi...	Walker	2013
Leprosy and Slavery in Suriname: Godfried Schilling and the Pr...	Snelders	2013
Medical Experimentation and Race in the Eighteenth-century ...	Schiebinger	2013
The Circulation of Bodily Knowledge in the Seventeenth-centu...	Gómez	2013
Circulation of Medicine in the Early Modern Atlantic World	Cook and Walker	2013
Synthesis of scholarship on "medicines" to restore focus o...		
Full Text PDF		
Colonial Medical Encounters in the Nineteenth Century: The Fr...	Thorl	2012
Networks in Tropical Medicine: Internationalism, Colonialism, &...	Neill	2012
Early Clinical Features of Dengue Virus Infection in Nicaraguan...	Blawas et al.	2012
Medicine in an age of commerce and empire: Britain and its tr...	Harrison	2010
Finding the "ideal Diet": Nutrition, Culture, and Dietary Practic...	Neill	2009
Battles of the Self: War and Subjectivity in Early Modern France	Pichichero	2008
The Experiments of Ramón M. Termeroy SJ on the Electric Eel ...	de Asúa	2008
Psychiatry and Empire	Mahone and Vaughan	2007
Medicine and the Market in England and Its Colonies, c.1450-...	Jenner and Wallis	2007
Matters of exchange: commerce, medicine, and science in the...	Cook	2007
A Horrible Tragedy in the French Atlantic	Rothschild	2006
"Neither of meat nor drink, but what the Doctor alloweth": ...	Chakrabarti	2006
Transnationalism in the colonies: Cooperation, rivalry, and rac...	Neill	2005
Variation, Vaccination and Popular Resistance in Early Coloni...	Brinnes	2004
"Syphilis, Opomania, and Pederasty": Colonial Constructions ...	Proschan	2003
Choosing Scientific Patrimony: Sir Ronald Ross, Alphonse Lav...	Gullemín	2002
Madness and Colonization: Psychiatry in the British and Frenc...	Keller	2001
The Colonial Machine: French Science and Colonization in the ...	McClellan and Rego...	2000
From medical astrology to medical astronomy: sol-lunar and pl...	Harrison	2000
Disease and Empire: The Health of European Troops in the Co...	Bynum	2000

Details for 'Circulation of Medicine in the Early Modern Atlantic World':

- Item Type: Journal Article
- Title: Circulation of Medicine in the Early Modern Atlantic World
- Author: Cook, Harold J.
- Author: Walker, Timothy D.
- Abstract: The search for powerful drugs has caused people and commodities to move around the globe for many centuries, as it still does...
- Publication: Social History of Medicine
- Volume: 26
- Issue: 3
- Pages: 337-351
- Date: 2013/08/01
- Series: y m d
- Series Title: Soc Hist Med
- Series Text: Soc Hist Med
- Language: en
- DOI: 10.1093/shm/hkt013
- ISSN: 0951-631X
- URL: <https://academic.oup.com/shm/article/26/3...>
- Short Title: Accessed 1/24/2018, 10:17:12 AM
- Archive: 1/24/2018, 10:17:12 AM
- Loc. in Archive: 1/24/2018, 10:17:12 AM
- Library Catalog: 1/24/2018, 11:50:15 AM
- Call Number: Modified
- Rights: Extra
- Date Added: 1/24/2018, 10:17:12 AM
- Modified: 1/24/2018, 11:50:15 AM

Zotero

- Browser support
- Retrieve PDF metadata
- Duplicate detection
- Generate bibliographies (BibT_EX)
- Sync with your account

3

Summary

Week 2 - Markup Languages & Scientific Literature

- Markup languages: XML, Markdown
- CS Ranking
- Literature resources: ACM, IEEE, arXiv
- Paper organization
- Literature management: Zotero