

Journal Article Tag Suite (JATS)

Set 1.0: New ISO standard of
journal XML and ScienceCentral

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After this class, attendees should be able to

1. Explain the reasons to produce JATS XML for journal publishing
2. Describe the process of rendering JATS XML in the Web
3. Code the **tagging** according to JATS DTD 1.0
4. Explain **the function** of DTD, XSL, and CSS
5. Present with a variety of **languages** such as Vietnamese and English
6. **Validate** the JATS XML files
7. Add journal to ScienceCentral for better visibility

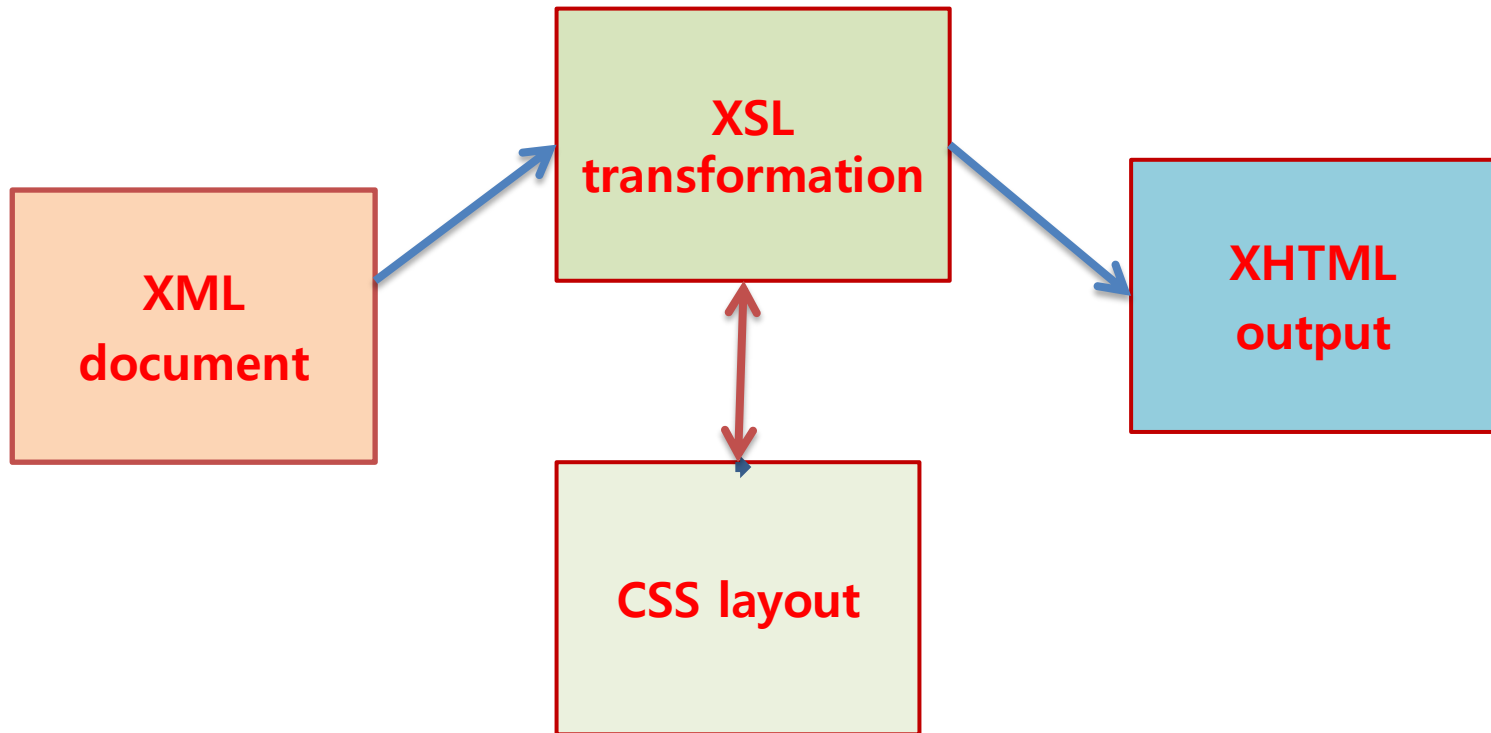
Use Firefox as browser

- If you did not install Firefox, install it available from: <http://www.mozilla.org>
- Please install Add-on for epub3 available from:
- <https://addons.mozilla.org/en-US/firefox/addon/epubreader/>

History of JATS

- a standard ([NISO Z39.96-2012](#)) that defines a set of XML elements and attributes for tagging journal articles and describes three article models.
- JATS is a continuation of the NLM Archiving and Interchange DTD work begun in 2002 by [NCBI](#)
- PMC to JATS in 2012

Process of viewing JATS in the web



eXtensible Stylesheet Language (XSL)

- Style sheet language for XML documents
- XSL describes how XML document displayed.

CSS (Style Sheets for HTML)	XSL (Style Sheets for XML)
uses predefined tags	does not use predefined tags
each tag is well understood	each tag is not well understood
browser knows how to display it	browser does not know how to display it

Cascading Style Sheets (CSS)

- Styles define how to display HTML elements
- Styles were added to HTML 4.0 to solve a problem
- External Style Sheets can save a lot of work
- External Style Sheets are stored in CSS files

Required files for JATS XML

- Put followings in the same directory:
 1. `sample.xml`
 2. `JATS-journalpublishing1.dtd`
 3. `jats-html.xsl`
 4. `Jats-preview.css`

Example of coding

- <http://www.e-sciencecentral.org/sciencecentraldoc/tagging-guidelines/style.php>

Browsing JATS XML file

- Open sample.xml with **Firefox**
- Change the dtd file with different file name
- Change the xsl file with different file name
- Change the css file with different file name
- Compare the result of browsing in each step

Structure of JATS XML

- Declaration of XML, XSL, and DTD
- **<article>**
 - <front>** bibliographic info, license, abstract, keywords
 - </front>**
 - <body>** main text
 - </body>**
 - <back>** conflict of interest, acknowledgement, references, appendix, audiovisual file, supplements
 - </back>**
- **</article>**

Declaration of XML, XSL, and DTD

- `<?xml version="1.0" encoding="UTF-8"?>`
- `<?xml-stylesheet type="text/xsl" href="jats-html.xsl"?>`
- `<!DOCTYPE article PUBLIC "-//NLM//DTD JATS (Z39.96) Journal Publishing DTD v1.0 20120330//EN" "JATS-journalpublishing1.dtd" >`

<front> </front>

<front>

- <journal-meta>
- <journal-id journal-id-type="publisher-id">KCSE</journal-id>
- <journal-title-group> <journal-title> Science Editing </journal-title> </journal-title-group>
- <issn pub-type="ppub">2288-7474</issn>
- <issn pub-type="epub">2288-9063</issn>
- <publisher>
- <publisher-name>Korean Council of Science Editors</publisher-name> </publisher>
- </journal-meta>
- ...
- </front>

<body> </body>

- <body>
- <sec sec-type="intro">
- <title>Introduction</title>
- <p>
- Production of Journal Article Tag Set eXtensible Markup Language (JATS XML) files can be done by anyone who can understand English and have minimum knowledge on journal editing and publishing....
- </p>
- </sec>
- <sec sec-type="methods">
- ..
- </sec>
- </body>

<back> </back>

- **<coi>**
- **<p> No potential conflict of interest relevant to this article was reported**
- **</p>**
- **</coi>**
- **<ack>**
- **<p>This work is supported by the research grant of the National Research Foundation of Korea (policy research-2013-003-academic infrastructure promotion) and the Korean Federation of Science and Technology Societies (KOFST-2013), Government of the Republic of Korea.</p>**
- **</ack>**

- <ref-list>
- <ref id="b1-sciedit-1-15">
- <label>1</label>
- <element-citation publication-type="journal">
- <person-group person-group-type="author">
- <name>
- <surname>Huh</surname>
- <given-names>S</given-names>
- </name>
- ..
- </person-group>
- <article-title>
- Using Journal Article Tag Suite extensible markup language for scholarly journal articles written in Korean.
- </article-title>
- <source>Sci Ed</source>
- <year iso-8601-date="2014">2014</year>
- <volume>1</volume>
- <fpage>19</fpage>
- <lpage>23</lpage>
- </element-citation>
- </ref>
- </ref-list>

Encoding of languages

- `<article xml:lang="en">`
- `xml:lang="vi"` → *Vietnamese*
- `xml:lang="ja"` → *Japanese*
- `xml:lang="ko"`
- `"hi"` → hindi

Validation

- <http://www.e-sciencecentral.org/tools/stylechecker/>
- <http://www.ncbi.nlm.nih.gov/pmc/pub/validation/>
- **What is the difference of two validation methods?**

Merits of JATS XML production?

1. To be added to **international databases**
2. Compatible to **public access** policy
3. Beautiful journal **homepage**
4. Easy conversion to other **viewers**
5. Easy conversion to **other XMLs**
6. Cited-by function, reference hyperlink
7. **Error is minimized**

ScienceCentral (e-sc.org)

- Visibility is dependent to platform

www.e-sciencecentral.org

ScienceCentral

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ScienceCentral is a free or open access full-text archive of scientific society journal literature at the Korean Federation of Science and Technology Societies.

How to participate

- [How to add a journal to ScienceCentral](#)
- [Participation agreements](#)
- [How to submit a file after validating the JATS XML file](#)
- [Tagging Guidelines](#)

Other Resources

- [Open Access Subset](#)
- [E-utilities](#)
- [ScienceCentral Citation Search](#)
- [Image Search](#)
- [CrossRef Funder Registry Browser](#)

Public Access

- [KOFST Open Access Policy and ScienceCentral](#)

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www.e-sciencecentral.org Ref Text and Data Mining Search

오전 10:25
2015-02-20

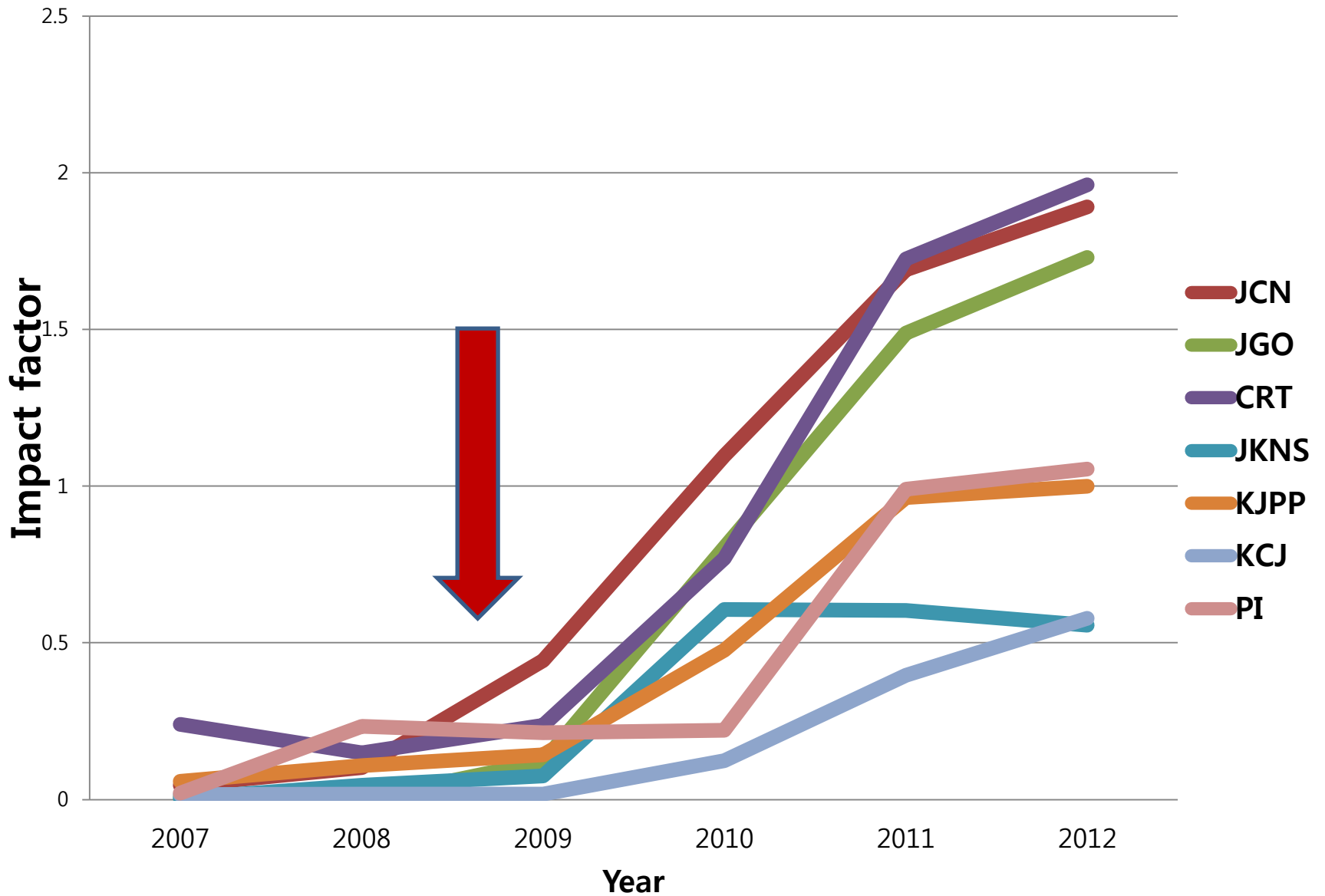
Homepage of ScienceCentral [cited 2015, August 1].

PubMed Central

- free full-text archive of biomedical and life sciences journal literature at US NIH/NLM

The screenshot shows the PubMed Central (PMC) homepage. At the top, there is a navigation bar with the NCBI logo, a search bar, and links for 'Resources', 'How To', and 'Sign in to NCBI'. Below this is a large banner with a blue-tinted image of a biological structure. The banner text reads: 'PMC PubMed Central® (PMC) is a free full-text archive of biomedical and life sciences journal literature at the U.S. National Institutes of Health's National Library of Medicine (NIH/NLM)'. To the right of the banner is a 'PubReader' advertisement showing a tablet displaying a scientific article. Below the banner are three main sections: 'Get Started' with links for 'PMC Overview', 'Users' Guide', 'Journal List', 'PMC FAQs', and 'PMC Copyright Notice'; 'Participate' with links for 'Add a Journal to PMC', 'Participation Agreements', 'File Submission Specifications', and 'File Validation Tools'; and 'Keep Up to Date' with links for 'New in PMC', 'PMC Announce Mail List', 'Utilities Announce Mail List', and 'Tagging Guidelines Mail List'. At the bottom, there is a '3.3 MILLION Articles are archived in PMC' badge and an 'NIH Public Access' section with a link to 'NIH Public Access and PMC'. The Windows taskbar at the bottom shows the system clock as 9:33 AM on 2015-02-20.

The starting page of PubMed Central.



Chronological change in the impact factor of 7 non-MEDLINE journals indexed in PubMed Central from Korea

Comparison between ScienceCentral and PMC (I)

Item	ScienceCentral	PMC
Scope	All Science	Bio-Medicine
Language	All languages	English only
Deposit format	JATS XML	JATS XML or SGM L PMC 2.3
translation	Google translation	No
Cited by	ScienceCentral CrossRef	PMC PubMed

Comparison between ScienceCentral and PMC (II)

PubReader, Epub	Yes	Yes
Availability as Landing page	Yes	Yes
Producer	KOFST	US NLM
Year of launch	2013	2000
Number of journal	60	1,700
Number of article	10,000	3,300,000

Conclusion-Action Plan

- Let's produce full text **JATS XML** files
- Deposit XML files to ScienceCentral/PubMed Central
- Get privilege of better **visibility and higher citation frequency**
- Devote to world citizens' needs of scientific knowledge