

WORKSHOP:

## L<sup>A</sup>T<sub>E</sub>X to XML/MathML

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The objective of this workshop was to show what it takes to translate L<sup>A</sup>T<sub>E</sub>X sources into XML in general, and L<sup>A</sup>T<sub>E</sub>X mathematics into MathML in particular. In addition, it aimed at reviewing backward translations from XML and MathML into T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X. Many of the details can be found in *The L<sup>A</sup>T<sub>E</sub>X Web Companion*.

We started by demonstrating the viability of such translations. We provided pointers to 38 source files in the public domain, including AMS preprints, and their corresponding outcome in a XML dialect consisting of the union of XHTML and MathML. Then we looked at an example of a backward transformation, which had been used to create PDF output. As a side product, we noted that translations to MathML may be used for debugging L<sup>A</sup>T<sub>E</sub>X formulae. The translations relied on TeX4ht for the forward direction, and PassiveT<sub>E</sub>X for the backward direction.

The second part of the workshop reviewed XML as an evolution from HTML, demonstrated the use of Cascading Style Sheets (CSS) for specifying the look of XML code, and illustrated the application of XSL for defining transformations on XML documents.

In the third part we took a look at how the translation of L<sup>A</sup>T<sub>E</sub>X documents can be managed, for HTML, XML, and MathML output. Beyond the use of built-in modes, we dealt with user configuration of the output, and the constraints imposed by the T<sub>E</sub>X engine and L<sup>A</sup>T<sub>E</sub>X style files. Finally, approaches and tools for backward translations were reviewed.

We concluded by considering the relationships between L<sup>A</sup>T<sub>E</sub>X, T<sub>E</sub>X, and XML, and calling for more coordinated work within the L<sup>A</sup>T<sub>E</sub>X community.

### References

- [1] Slides of workshop:  
[www.cis.ohio-state.edu/~gurari/tug99/](http://www.cis.ohio-state.edu/~gurari/tug99/)
- [2] *The L<sup>A</sup>T<sub>E</sub>X Web Companion*, Michel Goossens and Sebastian Rahtz, with Eitan M. Gurari, Ross Moore, and Robert S. Sutor. Addison Wesley Longman, 1999.
- [3] TeX4ht:  
[www.tug.org/applications/tex4ht/mn.html](http://www.tug.org/applications/tex4ht/mn.html)
- [4] PassiveT<sub>E</sub>X:  
[users.ox.ac.uk/~rahtz/passivetex/](http://users.ox.ac.uk/~rahtz/passivetex/)