

Design Decisions for a Structured Front End to L^AT_EX Documents

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Scientific WorkPlace and *Scientific Word* are word processors that have been designed from the start to handle mathematics gracefully. As structure-oriented word processors, they follow the philosophy of L^AT_EX, that the author of the document should concern him- or herself with the content of the document, and with labeling the role that each bit of text plays, such as a header, a footnote, or a quote. The details of formatting should be ignored by the author, since L^AT_EX will do a better and more consistent job of formatting using a predefined or custom style specification.

Although this philosophy works very well for publishing, many of our customers want to have greater control over the appearance of their documents than the occasional use of packages can give them. In particular, in *Scientific Word* and *Scientific WorkPlace* it is quite difficult to add new tags and environments because much of the support of the rendering of these is in C++ code in the heart of the program.

This talk will discuss the design decisions behind a new architecture for these products, which uses a rich XML/CSS rendering component (Mozilla Gecko) to represent and render tags and environments, and which uses existing, well-documented tools to convert from T_EX to our internal form and to convert back to T_EX for export and printing. These tools are T_EX and XSLT respectively. The end of the talk will be spent on showing examples.