

1125-A0-1675 **Robert A Beezer*** (beezer@ups.edu), Department of Mathematics, University of Puget Sound,
1500 N Warner, Tacoma, WA 98416-1043. *Textbooks for the Web from MathBook XML.*

MathBook XML is an open source markup language for describing structured documents, initially mathematics textbooks. By describing structure, along with a careful separation of content from presentation, it is possible to simultaneously create faithful web versions and produce high-quality print and PDF versions.

Web versions of these textbooks make use of various technologies, such as MathJax, knows, Sage cells, screen readers, SVG graphics, embedded videos, Unicode, while also respecting in a modern format the principles derived from centuries of book design. Students get a dynamic, easily accessible textbook that is superior to printed books in many respects, with few real compromises. Authors are shielded from many technical details, such as the configuration of various technologies, navigating differences in escape characters across formats, and avoiding conflicts between \LaTeX packages.

We will demonstrate the aspects of MathBook XML described above, while also discussing the various design decisions and principles involved. This talk will be of interest to textbook authors (current and future), and mathematicians interested in the use of technology in communicating, teaching and learning mathematics. (Received September 18, 2016)