Open Mathematics Textbooks

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The Open Textbook Movement

- UTMOST = Undergraduate Teaching of Mathematics with Open Software and Textbooks
  - Learn what is required to make Sage easier for undergraduate courses to deploy and use effectively
  - Sage Cell Server is very tangible outgrowth
- AIM Open Textbook Initiative (UTMOST project)
- Open Mathematics Curriculum (RAB website)
- Calculus: Modeling and Application (MAA)
- Abstract Algebra: Theory and Applications (Tom Judson)
- A First Course in Linear Algebra (RAB)

Adventures in Text Processing

- "New" HTML version
  - MathJax to render LaTeX
  - Heavy use of knowls
  - Embedded Sage cell server instances
- "Structured" LaTeX from 2004
- 2012: Marked off subsections, paragraphs
- One-off Python and sed scripts $\rightarrow$ custom XML
- XSLT to...
  - (X)HTML
  - EPUB3 (no reader support)
  - Sage worksheets (HTML+Wiki, no cross-worksheet linking)
  - LaTeX$\rightarrow$PDF
    - Print-on-demand hardback book
    - Tablet/Mobile formatted PDFs
    - PDF Exercise and Solutions Manual
    - PDF Archetype Workbook
    - Definitions and Theorems flash cards
    - . . .

Web: http://buzzard.ups.edu/talks.html

Blog: http://beezers.org/blog/bb