THE STATE OF PRETEXT

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PRETEXT'S GOALS

- Increase the supply of openly-licensed material by making it easy for authors to create quality projects
- Encapsulate publishers' knowledge and technical knowledge in software
- Provide a future-proof, solid, technical foundation for an author's hard work. (Shared freely!)

A SHORT PRE-HISTORY

- 2004: Started writing A First Course in Linear Algebra (FCLA)
- 2006: Released v1.0 of FCLA. LaTeX with lots of structure. A book as software
- 2008: `tex4ht` converts to a version powered by `jsMath`. Becomes EPUB test case
- 2010: Chris Godsil authors books as raw HTML, duplicating MathJax configuration for each new page/division
- 2010-03-25: experiment with examinations in XML, converted via XSL to LaTeX
- 2011-09-28: David Farmer converts FCLA to HTML, with knowls
- 2013-05-20: Shuttleworth Flash Grant awarded for MathBook XML (MBX)

WHAT IS PRETEXT?

- A language. With a rigorous compact description (the schema)
- A collection of eleven principles
- Not: "an authoring and publishing system"
- Not: a collection of conversions to various output formats
- Maybe: includes a pre-processor and a library of XSL utilities
- Not: just mathematics and computer science
- Definitely: target STEM for now. But why not wider use?
- Not: just undergraduate textbooks
- Definitely: monographs, research articles, slides
- Never has been: an LMS, nor a hosting service
- A modern replacement for LaTeX
- A commitment to creating accessible materials
- A community of instructors, authors, and publishers

STATUS REPORT

The language:

- Opinion: PreTeXt, as a language, is fairly mature. Version 0.95?
- Needs third (and final!) markup for bibliographies
- Elements are expensive, attributes are cheap
- New disciplines will need new elements (chemistry: `<laboratory>`, `<molecule>`)

The software development project:

- Runestone is a huge LEAP forward, providing valuable resources for students, instructors, authors, and researchers
- Lots of opportunities for refactoring and code clean-up
- Push lots of logic and processing to the pre-processor and common templates
- Sustainable: modular, clean, well-documented code base

SUPPORT AND NEEDS

PreTeXt can evolve with almost no money.

But it is likely to evolve faster and better with some funding.

- Cost: developer's time (which we expect as a volunteer activity)
- Cost: annual development-only workshop (ala PDX heat wave)
- Cost: stipends (honoraria almost) for developer projects (e.g. CLI)
- Cost: schema browser software
- Indirect Cost: developers' hardware
- Free: GitHub, Google Groups, Zoom, Python, development tools
- Funding: grants from NSF, National Federation of the Blind, Open Oregon, etc.
- Support: AIM provides website, workshops, David Farmer

CONVERSIONS

- HTML: lots of interest and expertise. Three hosts: open web, Runestone, React
- PDF/LaTeX: mostly RAB with some help. XSL-FO (Formatting Objects) would be a non-LaTeX approach
- EPUB: mostly RAB, but just a variant of base HTML. Mitch K leads Kindle project
- Jupyter: needs some love. A new design approach from braille could work wonders
- Slides: sporadic development for HTML. Beamer output is unworkable now
- Braille: RAB just completed a total re-write and improvements will be simpler and faster
- Tactile graphics: David Austin, Alexei Kolesnikov, Volker Sorge are on it

THE FUTURE

- Work on the language, the code, and the conversions will continue
- Feature complete, other than the needs of new disciplines (?)
- New elements introduced only with cause (e.g. Runestone exercises, AIM Open Problems)
- Without much money, a legal entity seems unnecessary now
- Discussion: copyrights, licensing, "intellectual property", both short-term and long-term
- Discussion: how to attract, train, and support volunteer developers?
- Which projects to support? (Witness recent four-year push to support Runestone)

CONCLUSION

Links

- `pretextbook.org`
- `runestone.academy`
- `buzzard.ups.edu/talks.html`
- Twitter: `@PreTeXtBook`, `#PreTeXtGang`
- Mastodon: `@PreTeXt@fosstodon.org`

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