The Stacks project framework

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PYTHON 3? HTML5? CSS3? JAVASCRIPT?

WE NEED YOU FOR THE STACKS PROJECT FRAMEWORK
The Stacks project framework

Python

- plasTeX
- Flask
- peewee
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responsive design in HTML, CSS and JS
Unless someone is willing to work on outdated spaghetti code which will be replaced soon I won’t discuss this.
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Except for a mobile stylesheet, which doesn’t require knowing the framework anyway.
New framework: Gerby

some modest goals:

1. better maintainable, more robust
2. make it mobile-friendly
3. easier to run locally (right now you need an Apache webserver with PHP and SQLite, and perform a gazillion configuration steps)
4. applicable to other projects: e.g. Jacob Lurie’s books
5. . . .
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3 parts (all Python!)

**\TeX** splitting up into tags, converting to HTML
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\texttt{database} updating tags, extracting extra information
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3 parts (all Python!)

- \texttt{\LaTeX} splitting up into tags, converting to HTML
- database updating tags, extracting extra information
- website interface
plasTeX: https://github.com/tiarno/plastex

1. DOM-based
2. convert \LaTeX to HTML, DocBook, text, ...
3. can parse macros and packages
part 1: \TeX\ stuff

plas\TeX: https://github.com/tiarno/plastex

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2. convert \LaTeX\ to HTML, DocBook, text, …
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new renderer for plas\TeX: Gerby, see
https://github.com/pbelmans/plastex/tree/gerby

1. whenever \textit{something} (section, lemma, equation) has a label,
   look up its tag
2. convert \textit{something} to HTML, and write this to a text file
3. filename contains some metadata:
   \texttt{lemma-10.19.1-00DV-algebra-lemma-NAK.tag}
4. proofs are separate entities (because
   \texttt{\begin{proof}...\end{proof} is outside the environment)
part 1: what needs to happen?

1. fix various bugs (indicated by TODO or FIXME in the code)
2. implementation:
   • handling \item’s
   • use pdf2svg for xypic or tikz-cd?
   • use mathjax-server?
3. improve documentation
4. check output on Stacks project, Higher Topos Theory
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4. check output on Stacks project, Higher Topos Theory
   no programming knowledge needed!
part 2: database (and other tools)

need to populate a database (SQLite at the moment) with

1. the output from plasTeX
2. navigation data
3. bibliography data
4. dependency data
5. . . .
part 2: database (and other tools)

need to populate a database (SQLite at the moment) with

1. the output from plasTEX
2. navigation data
3. bibliography data
4. dependency data
5. ...

but also

1. build pdf’s
2. generate graphs
3. read off Git history
part 2: what needs to happen?

everything from the previous slide, except output from plas\TeX
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part 3: website

based on Flask

*Flask is a micro web framework written in Python and based on the Werkzeug toolkit and Jinja2 template engine. It is used by Pinterest, LinkedIn, . . .*
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Flask is a micro web framework written in Python and based on the Werkzeug toolkit and Jinja2 template engine. It is used by Pinterest, LinkedIn, . . .

1. it is *micro*, so no need for reading hundred of pages of documentation
2. super easy to run locally (if you don’t have access to an internet connection)
3. Jinja2 is what is used in plasTeX too
part 3: what needs to happen?

in short: a lot
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in short: a lot

also: focus on mobile devices (it’s not 2012 anymore!)
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in short: a lot

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1. overall layout
2. navigation for tags
3. bibliography
4. static pages
5. search
6. ....
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different setup?
part 3: what needs to happen?

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different setup? maybe use JavaScript to have a setup which works on mobile devices?
we have a brainstorm session on Thursday