

Editing LaTeX documents in XML editor

Bartosz Marciniak

BachoTeX 2015

L^AT_EX vs XML

L^AT_EX

```
\section
  [Title]
  {Title}
```

XML

```
<section>
  <title>Title</title>
  <titleabbrev>Title</titleabbrev>
  ...
</section>
```

Syntax

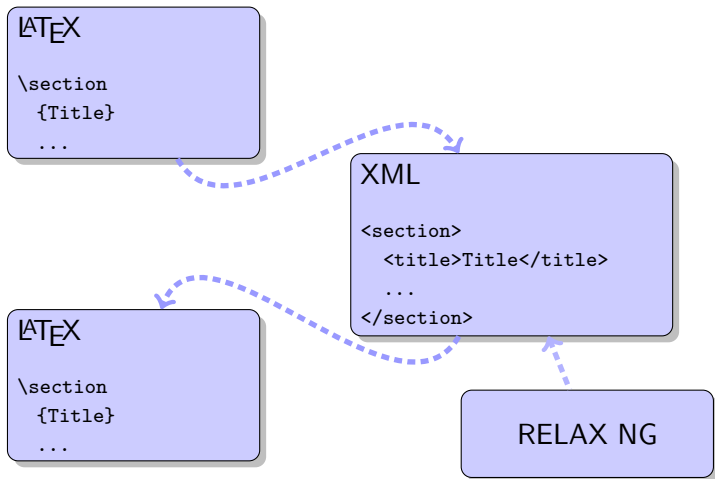
concise

overgrown

Editors

syntax highlighting
command autocompletion

definition of document
structure: DTD, XML Schema
or RELAX NG



Tools

LaTeXQuery – LaTeX to XML converter written in XQuery.

<https://github.com/bartko/LaTeXQuery>

<code>\begin{envname}...</code>	<code><environment name="envname">...</code>
<code>\end{envname}</code>	<code></environment></code>
<code>\commandname</code>	<code><command name="commandname"/></code>
<code>\\ _</code>	<code><command name="\"/> <command name=" "/></code>
<code>\commandname{param1}</code> <code> [param2]</code>	<code><command name="commandname"></code> <code> <param>param1</param></code> <code> <param type="opt">param2</param></code> <code></command></code>
<code>\$y=\frac{1}{2}x+1\$</code>	<code><mathmode type="dollar"></code> <code> $y=\frac{1}{2}x+1$</mathmode></code>
<code>\verb!@#%^!</code>	<code><verb delim="!">@#%^!</verb></code>
<code>% comment</code>	<code><!-- comment--></code>

Postprocessing

LaTeXQuery	Postprocessing
<code><command name="commandname"/></code>	<code><cmd_commandname/></code>
<code><command name="documentclass"> <param>article</param> </command></code>	<code><class_article> </class_article></code>
<code><command name="usepackage"> <param>polski</param> </command></code>	<code><usepackage_polski/></code>
<code><command name="section"> <param>Title</param></code>	<code><cmd_section> <title>Title</title></code>
<code><command name="textit"> <param>text</param> </command></code>	<code><cmd_textit> <param>text</param> </cmd_textit></code>

RELAX NG

L^AT_EX

```
\begin{figure}
  \includegraphics{fig1.eps}
  \caption{Caption of figure}
  \label{fig:01}
\end{figure}
```

XML

```
<environment name="figure">
  <command name="includegraphics"><param>fig1.eps</param></command>
  <command name="caption"><param>Caption of figure</param></command>
  <command name="label"><param>fig:01</param></command>
</environment>
```

RELAX NG

```
PARAM = element param { text }
element environment {attribute name {"figure"},
  element command {attribute name {"includegraphics"}, PARAM}
  element command {attribute name {"caption"}, PARAM}
  element command {attribute name {"label"}, PARAM}?
}
```