

`smglom.cls/sty`: Semantic Multilingual Glossary for Math

Michael Kohlhase
Jacobs University, Bremen
<http://kwarc.info/kohlhase>

April 26, 2014

Abstract

The `smglom` package is part of the \LaTeX collection, a version of $\text{\TeX}/\text{\LaTeX}$ that allows to markup $\text{\TeX}/\text{\LaTeX}$ documents semantically without leaving the document format, essentially turning $\text{\TeX}/\text{\LaTeX}$ into a document format for mathematical knowledge management (MKM).

This package supplies an infrastructure for writing OMDoc glossary entries.

Contents

1	Introduction	2
2	The User Interface	2
2.1	Package and Class Options	2
3	Implementation: The SMGloM Class	3
3.1	Class Options	3
3.2	For Module Definitions	4
3.3	For Language Bindings	5

1 Introduction

2 The User Interface

2.1 Package and Class Options

`smglom.cls` accepts all options of the `omdoc.cls` and `article.cls` and just passes them on to these.

3 Implementation: The SMGloM Class

3.1 Class Options

To initialize the `smglom` class, we pass on all options to `omdoc.cls`

```
1 <*cls>
2 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{omdoc}}
3 \ProcessOptions
4 </cls>
5 <*ltxml.cls | ltxml.sty>
6 # -*- CPERL -*-
7 package LaTeXML::Package::Pool;
8 use strict;
9 use LaTeXML::Package;
10 DeclareOption(undef,sub {PassOptions('article','cls',ToString(Digest(T_CS('\CurrentOption'))));
11 ProcessOptions();
12 </ltxml.cls | ltxml.sty>
```

We load `omdoc.cls`, and the desired packages. For the \LaTeX ML bindings, we make sure the right packages are loaded.

```
13 <*cls>
14 \LoadClass{omdoc}
15 \RequirePackage{smglom}
16 </cls>
17 <*sty>
18 \RequirePackage{amstext}
19 \RequirePackage{modules}
20 \RequirePackage{dcm}
21 \RequirePackage{statements}
22 \RequirePackage{sproof}
23 \RequirePackage{cmath}
24 \RequirePackage{presentation}
25 \RequirePackage{amsfonts}
26 </sty>
27 <*ltxml.cls>
28 LoadClass('omdoc');
29 RequirePackage('smglom');
30 </ltxml.cls>
31 <*ltxml.sty>
32 RequirePackage('amstext');
33 RequirePackage('modules');
34 RequirePackage('dcm');
35 RequirePackage('statements');
36 RequirePackage('cmath');
37 RequirePackage('presentation');
38 RequirePackage('amsfonts');
39 </ltxml.sty>
```

3.2 For Module Definitions

```

gimport just a shortcut
40 <ltxml.sty>RawTeX(
41 <*sty | ltxml.sty>
42 \newcommand\gimport[2] [] {\def\@test{#1}%
43 \edef\mh@@repos{\mh@currentrepos}%
44 \ifx\@test\@empty\importmhmodule[repos=\mh@@repos,ext=tex]{#2}{#2}%
45 \else\importmhmodule[repos=#1,ext=tex]{#2}{#2}\fi
46 \mhcurrentrepos\mh@@repos\ignorespaces}

guse just a shortcut
47 \newcommand\guse[2] [] {\def\@test{#1}%
48 \edef\mh@@repos{\mh@currentrepos}%
49 \ifx\@test\@empty\usemhmodule[repos=\mh@@repos,ext=tex]{#2}{#2}%
50 \else\usemhmodule[repos=#1,ext=tex]{#2}{#2}\fi
51 \mhcurrentrepos\mh@@repos\ignorespaces}

gadopt just a shortcut
52 \newcommand\gadopt[2] [] {\def\@test{#1}%
53 \edef\mh@@repos{\mh@currentrepos}%
54 \ifx\@test\@empty\adoptmhmodule[repos=\mh@@repos,ext=tex]{#2}{#2}%
55 \else\adoptmhmodule[repos=#1,ext=tex]{#2}{#2}\fi
56 \mhcurrentrepos\mh@@repos\ignorespaces}

gview The gview environment is just a layer over the view environment with the keys
suitably adapted.
57 \newenvironment{gview}[3] [] {\def\@test{#1}%
58 \ifx\@test\@empty%
59 \begin{view}[from=#2,to=#3,ext=tex]{#2}{#3}\else%
60 \begin{view}[from=#2,to=#3,ext=tex,#1]{#2}{#3}\fi}
61 {\end{view}}
62 </sty | ltxml.sty>
63 <ltxml.sty>');

symbol has a starred form for primary symbols. Both do nothing.
64 <*sty>
65 \def\symbol{\@ifstar\@gobble\@gobble}
66 </sty>
67 <*ltxml.sty>
68 DefConstructor('\symbol OptionalMatch:* {}',
69 " <mdoc:symbol ?#1(role='primary')(role='secondary') name='#2'/>" );
70 </ltxml.sty>

*nym
71 <*sty>
72 \newcommand\hypernym[3] [] {#2 is a hypernym of #3}
73 \newcommand\hyponym[3] [] {#2 is a hyponym of #3}
74 \newcommand\meronym[3] [] {#2 is a meronym of #3}

```

```

75 </sty>
76 <*ltxml.sty>
77 DefConstructor('\hypernym [] {}{}', "");
78 DefConstructor('\hyponym [] {}{}', "");
79 DefConstructor('\meronym [] {}{}', "");
80 </ltxml.sty>

```

EdN:1

\MSC to define the Math Subject Classification,¹

```

81 <*sty>
82 \newcommand\MSC{\@gobble}
83 </sty>
84 <*ltxml.sty>
85 DefConstructor('\MSC{}', "");
86 </ltxml.sty>

```

3.3 For Language Bindings

This functionality must be moved to the `smultiling` package.

gviewsketch The `gviewsketch` environment is just a layer over the `viewsketch` environment with the keys suitably adapted.

```

87 <ltxml.sty>RawTeX(
88 <*sty | ltxml.sty>
89 \newenvironment{gviewsketch}[3] [] {\def\@test{#1}%
90 \ifx\@test\@empty%
91 \begin{viewsketch}[from=#2,to=#3]{#2}{#3}\else%
92 \begin{viewsketch}[from=#2,to=#3,#1]{#2}{#3}\fi}
93 {\end{viewsketch}}

```

gve The `gve` environment is just a layer over the `gviewsketch` environment with the keys and language suitably adapted.

```

94 \newenvironment{gve}[5] [] {\def\@test{#1}%
95 \ifx\@test\@empty%
96 \begin{gviewsketch}[id=#2.#3]{#4}{#5}\else%
97 \begin{gviewsketch}[id=#2.#3,#1]{#4}{#5}\fi
98 \smg@select@language{#3}}
99 {\end{gviewsketch}}
100 </sty | ltxml.sty>
101 <ltxml.sty>');

```

¹EdNOTE: MK: what to do for the LaTeXML side?