smglom.cls/sty: Semantic Multilingual Glossary for Math

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Abstract

The smglom package is part of the sTEX collection, a version of TEX/LATEX that allows to markup TEX/LATEX documents semantically without leaving the document format, essentially turning TEX/LATEX into a document format for mathematical knowledge management (MKM).

This package supplies an infrastructure for writing OMDoc glossary entries.

Contents

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`

```
⟨*cls⟩
\DeclareOption*{\PassOptionsToClass{\CurrentOption}{omdoc}}
\ProcessOptions
⟨/cls⟩
⟨*ltxml.cls | ltxml.sty⟩
# -*- CPERL -*-
package LaTeXML::Package::Pool;
use strict;
use LaTeXML::Package;
DeclareOption(undef,sub {PassOptions('article','cls',ToString(Digest(T_CS('\CurrentOption'))));
ProcessOptions();
⟨/ltxml.cls | ltxml.sty⟩
```

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

```
⟨*cls⟩
\LoadClass{omdoc}
\RequirePackage{smglom}
⟨/cls⟩
⟨*sty⟩
\RequirePackage{amstext}
\RequirePackage{modules}
\RequirePackage{dcm}
\RequirePackage{statements}
\RequirePackage{sproof}
\RequirePackage{cmath}
\RequirePackage{presentation}
\RequirePackage{amsfonts}
\RequirePackage[langfiles,english,ngerman]{smultiling}
⟨/sty⟩
⟨*ltxml.cls⟩
LoadClass('omdoc');
RequirePackage('smglom');
⟨/ltxml.cls⟩
⟨*ltxml.sty⟩
RequirePackage('amstext');
RequirePackage('modules');
RequirePackage('dcm');
RequirePackage('statements');
RequirePackage('cmath');
RequirePackage('presentation');
RequirePackage('amsfonts');
RequirePackage('smultiling');
⟨/ltxml.sty⟩
```

3.2 For Module Definitions

`gimport` just a shortcut

```
⟨ltxml.sty⟩RawTeX('
⟨*sty | ltxml.sty⟩
\newcommand\gimport[2][]{\def\@test{#1}%
\edef\mh@@repos{\mh@currentrepos}%
\ifx\@test\@empty\importmhmodule[repos=\mh@@repos,ext=tex]{#2}{#2}%
\else\importmhmodule[repos=#1,ext=tex]{#2}{#2}\fi
\mhcurrentrepos\mh@@repos\ignorespaces}
```

`guse` just a shortcut

```
\newcommand\guse[2][]{\def\@test{#1}%
\edef\mh@@repos{\mh@currentrepos}%
\ifx\@test\@empty\usemhmodule[repos=\mh@@repos,ext=tex]{#2}{#2}%
\else\usemhmodule[repos=#1,ext=tex]{#2}{#2}\fi
\mhcurrentrepos\mh@@repos\ignorespaces}
```

`gadopt` just a shortcut

```
\newcommand\gadopt[2][]{\def\@test{#1}%
\edef\mh@@repos{\mh@currentrepos}%
\ifx\@test\@empty\adoptmhmodule[repos=\mh@@repos,ext=tex]{#2}{#2}%
\else\adoptmhmodule[repos=#1,ext=tex]{#2}{#2}\fi
\mhcurrentrepos\mh@@repos\ignorespaces}
```

`gview` The `gview` environment is just a layer over the `view` environment with the keys suitably adapted.

```
\newenvironment{gview}[3][]{\def\@test{#1}%
\ifx\@test\@empty%
\begin{view}[from=#2,to=#3]{#2}{#3}\else%
\begin{view}[from=#2,to=#3,#1]{#2}{#3}\fi}
{\end{view}}
⟨/sty | ltxml.sty⟩
⟨ltxml.sty⟩');
```

`symbol` has a starred form for primary symbols. Both do nothing.

```
⟨*sty⟩
\def\symbol{\@ifstar\@gobble\@gobble}
⟨/sty⟩
⟨*ltxml.sty⟩
DefConstructor('\symbol OptionalMatch:* {}',
     "<omdoc:symbol ?#1(role='primary')(role='secondary') name='#2'/>");
⟨/ltxml.sty⟩
```

`*nym`

```
⟨*sty⟩
\newcommand\hypernym[3][]{#2 is a hypernym of #3}
\newcommand\hyponym[3][]{#2 is a hyponym of  #3}
\newcommand\meronym[3][]{#2 is a meronym of #3}
```

```
⟨/sty⟩
⟨*ltxml.sty⟩
DefConstructor('\hypernym [] {}{}',"");
DefConstructor('\hyponym [] {}{}',"");
DefConstructor('\meronym [] {}{}',"");
⟨/ltxml.sty⟩
```

EdN:1 `\MSC` to define the Math Subject Classification, [1]

```
⟨*sty⟩
\newcommand\MSC{\@gobble}
⟨/sty⟩
⟨*ltxml.sty⟩
DefConstructor('\MSC{}',"");
⟨/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.

```
⟨ltxml.sty⟩RawTeX('
⟨*sty | ltxml.sty⟩
\newenvironment{gviewsketch}[3][]{\def\@test{#1}%
\ifx\@test\@empty%
\begin{viewsketch}[from=#2,to=#3]{#2}{#3}\else%
\begin{viewsketch}[from=#2,to=#3,#1]{#2}{#3}\fi}
{\end{viewsketch}}
```

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

```
\newenvironment{gve}[5][]{\def\@test{#1}%
\ifx\@test\@empty%
\begin{gviewsketch}[id=#2.#3]{#4}{#5}\else%
\begin{gviewsketch}[id=#2.#3,#1]{#4}{#5}\fi
\smg@select@language{#3}}
{\end{gviewsketch}}
⟨/sty | ltxml.sty⟩
⟨ltxml.sty⟩');
```

[1] EdNote: MK: what to do for the LaTeXML side?