The *somedefs* toolkit package

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long time ago in a different century...

This file is maintained by the \LaTeX\ Project team. Bug reports can be opened (category tools) at https://latex-project.org/bugs.html.

Overview

This is an example ‘programmers toolkit’ package, for use by package writers. It allows package writers to provide options which switch definitions on and off. For example, a package *fred* might define a large number of commands, including \fooo and \baz, so:

\usepackage{fred}

would use a lot of memory, even if \fooo and \baz were the only commands needed. However, if the author of *fred* used the *somedefs* package, then the user would be able to say:

\usepackage[only,foo,baz]{fred}

and only the commands \fooo and \baz would be defined.

To use the *somedefs* package in your own packages or classes, you say:

\RequirePackage{somedefs}

You can then use four new commands:

- \UseAllDefinitions which says that all the commands in the file should be defined.
- \UseSomeDefinitions which says that only the commands specified by \UseDefinition should be defined.
- \UseDefinition{⟨name⟩} which says that the command \name should be defined.
- \ProvidesDefinition{⟨definition⟩} which provides one definition, of the form \definingcommand{\command}...
For example, the package \texttt{fred} could say:

\begin{verbatim}
\RequirePackage{somedefs}
\UseAllDefinitions
\DeclareOption{only}{\UseSomeDefinitions}
\DeclareOption*{\UseDefinition{\CurrentOption}}
\ProcessOptions
\ProvidesDefinition{\newcommand{\foo}{...}}
\ProvidesDefinition{\newcommand{\baz}{...}}
\end{verbatim}

One of the commands \texttt{\UseAllDefinitions} or \texttt{\UseSomeDefinitions} should always be used. You may have some commands which need other commands, in which case you have to declare the options by hand. For example, if the command \texttt{\bar} needs the command \texttt{\foo}, you could say:

\begin{verbatim}
\DeclareOption{bar}{\UseDefinition{bar}\UseDefinition{foo}}
\end{verbatim}

For a longer example of the use of the \texttt{somedefs} package, look at the \texttt{rawfonts} package.

\section*{Implementation}

The driver for the documentation you’re now reading.

\begin{verbatim}
\begin{document}
\DocInput{somedefs.dtx}
\end{document}
\end{verbatim}

This is a \LaTeX\ 2ε package.

\begin{verbatim}
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{somedefs}[1994/06/01 v0.03 Toolkit for optional definitions]
\end{verbatim}

The package works by having \texttt{\UseDefinition{⟨name⟩}} define \texttt{⟨name⟩} to be \texttt{\@unprovided@definition}. If \texttt{\UseSomeDefinitions} has been called, then \texttt{\ProvidesDefinition} looks to see if \texttt{⟨name⟩} is \texttt{\@unprovided@definition}. If \texttt{\UseAllDefinitions} has been called, then \texttt{\ProvidesDefinition} does nothing. If neither has been called, then \texttt{\ProvidesDefinition} produces an error message.

\begin{verbatim}
\def\UseSomeDefinitions{%
\let\ProvidesDefinition\@providesdefinition
\@provides@definition
\@unprovided@definition
\def\UseAllDefinitions{%
\def\@provides@definition{%
\def\@firstofone{%
\expandafter\let\csname\endcsname\unprovided@definition
\def\ProvidesDefinition#1{%
\PackageError{somedefs}{No \noexpand\UseSomeDefinitions or \string\UseAllDefinitions}%
\end{verbatim}

\begin{verbatim}
\end{document}
\end{verbatim}
{The package which used the 'somedefs' package has an error.}
\def\@providesdefinition#1{\@provides@definition#1\relax
\@provides@definition}
\def\@provides@definition#1#2#3\@provides@definition{%\fi
\ifx#2\@unprovided@definition
#1#2#3%
\fi
\def\@unprovided@definition{%\PackageError{somedefs}{Package 'somedefs' error: this command was never defined}{\PackageError{somedefs}{You have requested a command which does not exist.}}%
\@onlypreamble\UseSomeDefinitions
\@onlypreamble\UseAllDefinitions
\@onlypreamble\UseDefinition
\@onlypreamble\ProvidesDefinition
\@onlypreamble\@providesdefinition
\@onlypreamble\@provides@definition
That's it!
}