The \texttt{somedefs} toolkit package

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long time ago in a different century...

This file is maintained by the \TeX\ Project team. Bug reports can be opened (category tools) at \url{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 \texttt{fred} might define a large number of commands, including \texttt{\textbackslash foo} and \texttt{\textbackslash baz}, so:

\begin{verbatim}
\usepackage{fred}
\end{verbatim}

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

\begin{verbatim}
\usepackage[only,foo,baz]{fred}
\end{verbatim}

and only the commands \texttt{\textbackslash foo} and \texttt{\textbackslash baz} would be defined.

To use the \texttt{somedefs} package in your own packages or classes, you say:

\begin{verbatim}
\RequirePackage{somedefs}
\end{verbatim}

You can then use four new commands:

- \texttt{\UseAllDefinitions} which says that all the commands in the file should be defined.
- \texttt{\UseSomeDefinitions} which says that only the commands specified by \texttt{\UseDefinition} should be defined.
- \texttt{\UseDefinition{\textit{name}}} which says that the command \texttt{\textbackslash name} should be defined.
- \texttt{\ProvidesDefinition{\textit{definition}}} which provides one definition, of the form \texttt{\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}
\documentclass{ltxdoc}
\begin{document}
\DocInput{somedefs.dtx}
\end{document}
\end{verbatim}

This is a \LaTeX\textsuperscript{2e} package.

The package works by having \texttt{\UseDefinition{\langle name \rangle}} 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
  \let\@unprovided@definition
\}
\def\UseAllDefinitions{%
  \let\ProvidesDefinition@providesdefinition
  \let\@unprovided@definition
\}
\def\UseDefinition#1{%
  \expandafter\let\csname#1\endcsname\@unprovided@definition
}
\def\ProvidesDefinition#1{%
  \PackageError{somedefs}{No \noexpand\UseSomeDefinitions or \string\UseAllDefinitions}{}
\}
\def\@providesdefinition{%
  \PackageError{somedefs}{\texttt{\UseSomeDefinitions} or \texttt{\UseAllDefinitions}}{}
\}
\def\@provides@definition{%
  \PackageError{somedefs}{\texttt{\UseSomeDefinitions} or \texttt{\UseAllDefinitions}}{}
\}
\def\@unprovided@definition{%
  \PackageError{somedefs}{\texttt{\UseSomeDefinitions} or \texttt{\UseAllDefinitions}}{}
\}
\end{verbatim}

\section*{Raw fonts}

For a longer example of the use of the \texttt{somedefs} package, look at the \texttt{rawfonts} package.
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{%\ifx#2\@unprovided@definition
#1#2#3%
\fi}
\def\@unprovided@definition{%\PackageError{somedefs}{}{Package ‘somedefs’ error: this command was never defined}{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!
\endpackage