The \texttt{somedefs} toolkit package

Alan Jeffrey

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{\foo} and \texttt{\baz}, so:

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

would use a lot of memory, even if \texttt{\foo} and \texttt{\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{\foo} and \texttt{\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{⟨name⟩}} which says that the command \texttt{\name} should be defined.
- \texttt{\ProvidesDefinition{⟨definition⟩}} which provides one definition, of the form \texttt{\definingcommand{\command}...}
For example, the package `fred` could say:

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

One of the commands `\UseAllDefinitions` or `\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 `\bar` needs the command `\foo`, you could say:

\DeclareOption{bar}{\UseDefinition{bar}\UseDefinition{foo}}

For a longer example of the use of the `somedefs` package, look at the `rawfonts` package.

**Implementation**

The driver for the documentation you're now reading.

1 (*driver*)
2 \documentclass{ltxdoc}
3 \begin{document}
4 \DocInput{somedefs.dtx}
5 \end{document}
6 (*driver*)

This is a LaTeX 2ε package.

7 (*package*)
8 \NeedsTeXFormat{LaTeX2e}
9 \ProvidesPackage{somedefs}[1994/06/01 v0.03 Toolkit for optional definitions]

\UseSomeDefinitions
\UseAllDefinitions
\UseDefinition
\ProvidesDefinition
\@providesdefinition
\@unprovided@definition

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

10 \def\UseSomeDefinitions{%
11 \let\ProvidesDefinition@providesdefinition
12 }
13 \def\UseAllDefinitions{%
14 \let\ProvidesDefinition@firstofone
15 }
16 \def\UseDefinition#1{%
17 \expandafter\let\csname#1\endcsname\@unprovided@definition
18 }
19 \def\ProvidesDefinition#1{%
20 \PackageError{somedefs}{[No \noexpand\UseSomeDefinitions or \string\UseAllDefinitions]}%
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!
(/package)