The everyshi package[*]

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Abstract

This packages provides hooks into `\sshipout` called `\EveryShipout` and `\AtNextShipout` analogous to `\AtBeginDocument`.

Contents

1 Introduction

This package provides the hooks `\EveryShipout` and `\AtNextShipout` whose arguments are executed after the output routine has constructed `\box255`, and before `\shipout` is called.

An example application for this package would be a package for adding text to the bottom of each page. Such a package does exist: prelim2e[2].

Another application is a package for adding pictures to every page: esopic[1].

2 Usage

`\EveryShipout{⟨code⟩}` declares ⟨code⟩ that is saved internally and executed before each `\shipout`.

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[*]The version umber of this file is v3.00, last revised 2001/05/15.

The name everyshi is a tribute to the $8 + 3$ file-naming convention of certain "operating systems"; strictly speaking it should be everyshipout.

1

Warning: The ⟨*code*⟩ is saved globally; there is currently no way to remove it.

\AtNextShipout

New feature
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\AtNextShipout{⟨*code*⟩} declares ⟨*code*⟩ that is saved internally and executed just before *only the next* \shipout.

The ⟨*code*⟩ is executed after \box255 has been constructed by the output routine and can change \box255. \shipout is called *after* ⟨*code*⟩.

Repeated use of the commands is permitted: the code in the argument is stored (and executed) in the order of their declarations.

The argument of \AtNextShipout is executed *after* the argument of \EveryShipout.

3 Options

The package has no options.

4 Required packages

The package does not require any further packages.

5 The implementation

1 ⟨∗package⟩

5.1 Allocations

First we allocate the hooks

\@EveryShipout@Hook

The code to be executed before \shipout is stored in \@EveryShipout@Hook.

2 \newcommand{\@EveryShipout@Hook}{}

\@EveryShipout@AtNextHook

The code to be executed just before the normal \shipout and \@EveryShipout@EveryHook.

3 \newcommand{\@EveryShipout@AtNextHook}{}

5.2 The user-visible commands

\EveryShipout
\AtNextShipout

The commands are modeled after \AtBeginDocument.

4 \newcommand*{\EveryShipout}[1]
5   {\g@addto@macro\@EveryShipout@Hook{#1}}
6 \newcommand*{\AtNextShipout}[1]
7   {\g@addto@macro\@EveryShipout@AtNextHook{#1}}

5.3 Inserting the hooks

We want to redefine \shipout so that first \box255 is constructed and after that we can do something and at last shipout the (possible modified) \box255. Alas, this does not work in the usual way, since \shipout is a TEX primitive whose argument is a ⟨*box*⟩. This means that simply redefining \shipout via \newcommand[1] is impossible since ⟨*box*⟩ can be

something like `\box255` or something like `\vbox{...}`. In the first case `#1` would be ⟨`\box`⟩ (without ⟨*255*⟩); in the second case it would be ⟨**`\vbox`**⟩ (without ⟨`{...}`⟩).

The solution we use here is borrowed from quire.tex by Marcel R. van der Goot. It is based upon `\afterassignment` and `\aftergroup`.

`\@EveryShipout@Shipout`   `\@EveryShipout@Shipout` is our replacement for `\shipout`.

```
 8 \newcommand{\@EveryShipout@Shipout}{%
 9     \afterassignment\@EveryShipout@Test
10     \global\setbox\@cclv= %
11     }
```

`\box255` is set to whatever comes after `\shipout`; but after that assignment `\@EveryShipout@Test` is called.

`\@EveryShipout@Test`   `\@EveryShipout@Test` determines if `\shipout` is called with an argument like `\box255` or something like `\vbox{...}`. In the later case we delay the call of `\@EveryShipout@Output` (where the original `\shipout` is called) via `\aftergroup`.

```
12 \newcommand{\@EveryShipout@Test}{%
13     \ifvoid\@cclv\relax
14         \aftergroup\@EveryShipout@Output
15     \else
16         \@EveryShipout@Output
17     \fi%
18     }
```

`\@EveryShipout@Output`   `\@EveryShipout@Output` does the actual work. First the ⟨*code*⟩ accumulated via `\EveryShipout` and `\AtNextShipout` is called and then the original `\shipout` stored in `\@EveryShipout@Org@Shipout` is called to finally ship out `\box255`.

```
19 \newcommand{\@EveryShipout@Output}{%
20     \@EveryShipout@Hook%
21     \@EveryShipout@AtNextHook%
```

We have to reset `\@EveryShipout@AtNextHook` after each use.

```
22         \gdef\@EveryShipout@AtNextHook{}%
23     \@EveryShipout@Org@Shipout\box\@cclv%
24     }
```

`\@EveryShipout@Org@Shipout`   The original `\shipout` is stored in `\@EveryShipout@Org@Shipout` by `\@EveryShipout@Init`. Here we allocate it.

```
25 \newcommand{\@EveryShipout@Org@Shipout}{}
```

`\@EveryShipout@Init`   `\@EveryShipout@Init` stores the original `\shipout` in `\@EveryShipout@Org@Shipout` and sets `\shipout` to `\@EveryShipout@Shipout`. This is done at `\begin{document}` via `\AtBeginDocument`.

```
26 \newcommand*{\@EveryShipout@Init}{%
27     \message{ABD: EveryShipout initializing macros}%
28     \let\@EveryShipout@Org@Shipout\shipout
29     \let\shipout\@EveryShipout@Shipout
30     }
31 \AtBeginDocument{\@EveryShipout@Init}
```

32 ⟨/package⟩

6 Acknowledgements

Version 2.0 of everyshi borrows heavily from quire.tex of the Midnight Macros by Marcel R. van der Goot (`marcel@cs.caltech.edu`). The pointer to quire was provided by Lothar Meyer-Lerbs (`TEXSatz@zfn.uni-bremen.de`). As usual Rebecca Stiels improved the quality of this documentation.

References

[1] Rolf Niepraschk. The eso-pic package. `CTAN:tex-archive/macros/` `latex/contrib/supported/ms/contrib/eso-pic.dtx`. LATEX 2ε package.

[2] Martin Schröder. The prelim2e package. `CTAN:` `tex-archive/macros/latex/contrib/supported/ms/prelim2e.dtx`. LATEX 2ε package.

Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.

Change History