

xappendix --- An extensible appendix package^{*}

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Abstract

For a long time the appendix package was the de facto standard to configure appendices, including insertion of a part heading before the first appendix, and inclusion in the table of contents.

However, though interaction with the hyperref package is supported, to add multiple sets of appendices one needs to take special care to prevent duplicate page anchors.

This package aims to overcome these issues by adding built in support for multiple appendix sets. Furthermore, configuration has been rewritten to use pgfkeys as a frontend to redefining internal strings, as well as the use of \LaTeX 3.

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1 Introduction

Describe what `\appendix` does by default, how `appendix` changes this, and why this rewrite was started. `\memoir` detection, automatically disables emulation of original `appendix`

2 Usage

`xappendix` separates the typesetting of appendices into three stages: package loading, configuration, and execution.

2.1 Package options

Since `xappendix` aims to provide full backward compatibility with `appendix` (at least for the time being) some package options are available.

First of all, to enable the backward compatibility the package option `compat` must be specified. This provides the necessary commands and sets these as the values in the `\default` appendix configuration. **Note:** backward compatibility relies on the `\default` configuration, altering this with `\appendixset` might break it. See section 3 for more information on backward compatibility.

2.2 Configuration

`\appendixset` The main configuration of the package is through the `\appendixset [<name>] { <conf> }` command.

2.3 Execution

`\appendix` Starting the appendices still works through the default `\appendix` command. However, this has been modified to take an optional argument `[<name>]`, which corresponds to the optional argument given to `\appendixset`. If no argument is given it defaults to `\default`, for ease of use as well as backward compatibility.

`appendices` Similar to the original `appendix` package these environments are provided to group a set of appendices, either as a new chapter/section (in case of `appendices`), or as a section/sub-section under the current chapter/section (in case of `subappendices`).

`subappendices`

3 Backward compatibility

Backward compatibility is implemented by setting the configuration of the `\default` appendices. Since this implementation of the backward compatibility is inherently fragile it is recommended to use the new syntax wherever possible. Therefore tables 1 and 2 merely provide an overview of what new command the old commands are mapped to. Documentation of those commands can be found in the original `appendix` manual.

Usage of these options or commands without setting the package option `[<compat>]` results in warning, and the command will be ignored.

Table 1: Mapping of old commands to new key

Command	Key
<code>\appendixpage</code>	<code>/xappendix/<name>/add page</code>
<code>\addappheadtotoc</code>	<code>/xappendix/<name>/add to toc</code>
<code>\noappendicestocpagenum</code>	<code>/xappendix/<name>/page num to toc=false</code>
<code>\appendicestocpagenum</code>	<code>/xappendix/<name>/page num to toc=true</code>

Table 2: Mapping of old package options to new key

Option	Key
<code>toc</code>	<code>/xappendix/<name>/add to toc</code>
<code>title</code>	<code>/xappendix/<name>/add title</code>
<code>titletoc</code>	<code>/xappendix/<name>/add title in toc</code>
<code>header</code>	<code>/xappendix/<name>/add title in header</code>
<code>page</code>	<code>/xappendix/<name>/add page</code>

4 Implementation

1 `<*package>`

Declare module name for internal macros

2 `<@@=xappendix>`

First of all announce the package signature, and enable expl

3 `\ProvidesExplPackage {xappendix} {2014/04/01} {0.0}`

4 `{An extensible appendix package}`

Declare a number of switches for later reference.

5 `\bool_new:N \g__xappendix_chapter_mode_bool`

6 `\bool_new:N \g__xappendix_hyperref_bool`

7 `\bool_new:N \g__xappendix_backward_compat_bool`

8 `\bool_new:N \g__xappendix_add_to_toc_bool`

9 `\bool_new:N \g__xappendix_add_title_bool`

10 `\bool_new:N \g__xappendix_add_title_to_toc_bool`

11 `\bool_new:N \g__xappendix_add_title_to_header_bool`

12 `\bool_new:N \g__xappendix_add_page_bool`

13

14 `\int_new:N \g__xappendix_appendix_number_int`

Check if the chapter command is defined, and if not whether the section command is defined. If neither are available throw a warning and end input.

15 `\cs_new_nopar:Nn __xappendix_endinput: {`

16 `\prg_do_nothing:`

17 `}`

18 `\cs_if_exist:NTF \chapter {`

19 `\bool_gset_true:N \g__xappendix_chapter_mode_bool`

20 `} {`

```

21 \cs_if_exist:NF \section {
22   \msg_new:nnn {xappendix} {class-incompatible} {
23     Current~class~incompatible~with~xappendix:~no~section-
ing~commands~available.
24     \msg_see_documentation_text:n {xappendix}
25   }
26   \msg_warning:nn {xappendix} {class-incompatible}
27   \cs_gset:Nn \__xappendix_endinput: {\endinput}
28 }
29 }
30 \__xappendix_endinput:
31 \ProvideDocumentCommand\phantomsection{}{}
32 \cs_new:Nn \__xappendix_the_appendix_number: {
33   \int_to_alph:n {\g__xappendix_appendix_number_int}
34 }
35 \AtBeginDocument {%
36   \ifpackageloaded{hyperref}{%
37     \bool_gset_true:N \g__xappendix_hyperref_bool%
38   }{}%
39 }

```

If package option compat is not set the other options make no sense, setup a warning to be issued if it is set without compat.

```

40 \msg_new:nnnn { xappendix } { deprecated-options }
41 { Old~style~package~option~#1~deprecated,~ignored~without~option~compat }
42 { Enable~option~compat~to~activate~old~options,~option~ignored.
43   \msg_see_documentation_text:n { xappendix } }
44
45 Declare option compat first so the rest can check for it.
46 \DeclareOption{compat}{ \bool_gset_true:N \g__xappendix_backward_com-
pat_bool}
47 \DeclareOption{toc}{
48   \bool_if:nTF { \g__xappendix_backward_compat_bool }
49   { \bool_gset_true:N \g__xappendix_add_to_toc_bool }
50   { \msg_warning:nnx { xappendix } { deprecated-options } { toc } }
51 }
52 \DeclareOption{title}{
53   \bool_if:nTF { \g__xappendix_backward_compat_bool }
54   { \bool_gset_true:N \g__xappendix_add_title_bool }
55   { \msg_warning:nnx { xappendix } { deprecated-options } { ti-
tle } }
56 }
57 \DeclareOption{titletoc}{
58   \bool_if:nTF { \g__xappendix_backward_compat_bool }
59   { \bool_gset_true:N \g__xappendix_add_title_to_toc_bool }
60   { \msg_warning:nnx { xappendix } { deprecated-options } { ti-
tletoc } }
61 }
62 \DeclareOption{header}{
63   \bool_if:nTF { \g__xappendix_backward_compat_bool }
64   { \bool_gset_true:N \g__xappendix_add_title_to_header_bool }
65 }

```

```

63     { \msg_warning:nxx { xappendix } { deprecated-options } { header } }
64   }
65   \DeclareOption{page}{
66     \bool_if:nTF { \g__xappendix_backward_compat_bool }
67       { \bool_gset_true:N \g__xappendix_add_page_bool }
68     { \msg_warning:nxx { xappendix } { deprecated-options } { page } }
69   }
70   \ProcessOptions\relax

\appendixtocon Since depending on old style commands without the option compat, we declare all commands
\appendixtocoff only with the option set, and issue a warning if it's not.
\appendixtitleon
\appendixtitleoff 71 \msg_new:nnnn { xappendix } { deprecated-commands }
\appendixtitletocon 72 { Old~style~command~#1~deprecated,~ignored~without~option~compat }
\appendixtitletocoff 73 { Enable~package~option~compat~to~activate~old~commands,~command~ignored.
\appendixheaderon 74   \msg_see_documentation_test:n { xappendix } }
\appendixheaderoff 75 \bool_if:nTF { \g__xappendix_backward_compat_bool }
\appendixpageon Compatibility mode enabled, define old style commands
\appendixpageoff 76 {
77   \NewDocumentCommand\appendixtocon {}
78   { \bool_gset_true:N \g__xappendix_add_to_toc_bool }
79   \NewDocumentCommand\appendixtocoff {}
80   { \bool_gset_false:N \g__xappendix_add_to_toc_bool }
81   \NewDocumentCommand\appendixtitleon {}
82   { \bool_gset_true:N \g__xappendix_add_title_bool }
83   \NewDocumentCommand\appendixtitleoff {}
84   { \bool_gset_false:N \g__xappendix_add_title_bool }
85   \NewDocumentCommand\appendixtitletocon {}
86   { \bool_gset_true:N \g__xappendix_add_title_to_toc_bool }
87   \NewDocumentCommand\appendixtitletocoff {}
88   { \bool_gset_false:N \g__xappendix_add_title_to_toc_bool }
89   \NewDocumentCommand\appendixheaderon {}
90   { \bool_gset_true:N \g__xappendix_add_title_to_header_bool }
91   \NewDocumentCommand\appendixheaderoff {}
92   { \bool_gset_false:N \g__xappendix_add_title_to_header_bool }
93   \NewDocumentCommand\appendixpageon {}
94   { \bool_gset_true:N \g__xappendix_add_page_bool }
95   \NewDocumentCommand\appendixpageoff {}
96   { \bool_gset_false:N \g__xappendix_add_page_bool }
97 }

Compatibility mode disabled, issue warning only
98 {
99   \NewDocumentCommand\appendixtocon {}
100   { \msg_warning:nxx { xappendix } { deprecated-commands }
101     { \appendixtocon } }
102   \NewDocumentCommand\appendixtocoff {}
103   { \msg_warning:nxx { xappendix } { deprecated-commands }
104     { \appendixtocoff } }
105   \NewDocumentCommand\appendixtitleon {}
106   { \msg_warning:nxx { xappendix } { deprecated-commands }

```

```

107         { \appendixtitleon } }
108     \NewDocumentCommand\appendixtitleoff {}
109         { \msg_warning:nx { xappendix } { deprecated-commands }
110           { \appendixtitleoff } }
111     \NewDocumentCommand\appendixtitletocon {}
112         { \msg_warning:nx { xappendix } { deprecated-commands }
113           { \appendixtitletocon } }
114     \NewDocumentCommand\appendixtitletocoff {}
115         { \msg_warning:nx { xappendix } { deprecated-commands }
116           { \appendixtitletocoff } }
117     \NewDocumentCommand\appendixheaderon {}
118         { \msg_warning:nx { xappendix } { deprecated-commands }
119           { \appendixheaderon } }
120     \NewDocumentCommand\appendixheaderoff {}
121         { \msg_warning:nx { xappendix } { deprecated-commands }
122           { \appendixheaderoff } }
123     \NewDocumentCommand\appendixpageon {}
124         { \msg_warning:nx { xappendix } { deprecated-commands }
125           { \appendixpageon } }
126     \NewDocumentCommand\appendixpageoff {}
127         { \msg_warning:nx { xappendix } { deprecated-commands }
128           { \appendixpageoff } }
129 }

```

(End definition for \appendixtocoff. These functions are documented on page ??.)

(End definition for \appendixtocon. This function is documented on page ??.)

Declare internal macros to save and restore section and chapter numbers

```

130 \int_new:N \g__xappendix_save_section_int
131 \int_new:N \g__xappendix_save_appendix_int
132 \cs_new:Npn \g__xappendix_save_section_number:n {
133     \bool_if:nTF { \g__xappendix_chapter_mode_bool }
134     { \int_set:Nn { \g__xappendix_save_section_int } { \value{chap-
135       ter} } } }
136     { \int_set:Nn { \g__xappendix_save_section_int } { \value{sec-
137       tion} } } }
138 }
139 \cs_new:Npn \g__xappendix_restore_section_number:n {
140     \bool_if:nTF { \g__xappendix_chapter_mode_bool }
141     { \int_set:Nn { \setcounter{chapter} } { \int_use:N \g__xap-
142       pendix_save_section_int } }
143     { \int_set:Nn { \setcounter{section} } { \int_use:N \g__xap-
144       pendix_save_section_int } } }
145 }
146 \cs_new:Npn \g__xappendix_save_appendix_number:n {
147     \bool_if:nTF { \g__xappendix_chapter_mode_bool }
148     { \int_set:Nn { \g__xappendix_save_appendix_int } { \value{chap-
149       ter} } } }
150     { \int_set:Nn { \g__xappendix_save_appendix_int } { \value{sec-
151       tion} } } }
152 }

```

```

147 \cs_new:Npn \g__xappendix_restore_appendix_number:n {
148     \bool_if:nTF { \g__xappendix_chapter_mode_bool }
149     { \int_set:Nn { \setcounter{chapter} } { \int_use:N \g__xap-
    pendix_save_appendix_int } }
150     { \int_set:Nn { \setcounter{section} } { \int_use:N \g__xap-
    pendix_save_appendix_int } }
151 }
152 \bool_if:nTF { \g__xappendix_backward_compat_bool }
153 {
154     \ProvideDocumentCommand \appendixname {} {Appendix}
155     \NewDocumentCommand \appendixtocname {} {Appendices}
156     \NewDocumentCommand \appendixpagename {} {Appendices}
157 } {
158     \ProvideDocumentCommand \appendixname {} {Appendix}
159     \NewDocumentCommand \appendixtocname {}
160     { \msg_warning { xappendix } { deprecated-commands } { \ap-
    pendixtocname } }
161     \NewDocumentCommand \appendixpagename {}
162     { \msg_warning { xappendix } { deprecated-commands } { \ap-
    pendixtocname } }
163 }
164 \NewDocumentCommand\testhyperref{}{
165     \bool_if:nTF { \g__xappendix_hyperref_bool }
166     {Hyperref detected}
167     {Hyperref not detected}
168 }

```

\appendixset

```

169 \NewDocumentCommand\appendixset{O{default}}{
170     \pgfqkeys{/xappendix/#1}
171 }

```

\appendix

```

172 \cs_new:Nn \__xappendix_old_appendix: {\prg_do_nothing:}
173 \cs_set_eq:NN \__xappendix_old_appendix: \appendix
174 \cs_new:Nn \__xappendix_apply_settings:n {#1}
175 \RenewDocumentCommand \appendix {O{default}} {
176     \__xappendix_apply_settings:n {#1}
177     \__xappendix_old_appendix:
178 }
179 </package>

```

Change History

v0.0

General: First development release 1

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