The ltdocinit package

The LaTeX3 Project*

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1 ltdocinit documentation

This small package defines `\DeclareDocumentMetadata` and the related keys. It also defines commands to store document properties in a global container.

1.1 `\DeclareDocumentMetadata`

`\DeclareDocumentMetadata` `\DeclareDocumentMetadata{⟨key-value list⟩}`

Currently there is no dedicated location to declare settings concerning a document as a whole. Settings are placed somewhere in the preamble or with the class options or even with some package options. For some settings this can be too late, for example the pdf version can no longer be changed if a package has used code which already opened the PDF.

`\DeclareDocumentMetadata` as a new command should unify such settings in one place. It should be used before `\documentclass`, directly after loading pdfmanagement-beta. `\DeclareDocumentMetadata` can be used more than once.

The keys defined for `\DeclareDocumentMetadata` currently allows to set the PDF version, to set the PDF `/Lang`, to uncompress a pdf, to set the language and to declare a few PDF standards.

`\DeclareDocumentMetadata` is also used to activate the new PDF management code and it loads a number of required files for the PDF management code. As this forces the loading of the backend files, a backend which can't be detected automatically like `dvipdfmx`, must be set in the first `\DeclareDocumentMetadata`.

Currently the following keys are implemented

`backend` passes the backend name to expl3. This will probably be extended to pass the value also to packages.

`pdfversion` e.g. `pdfversion=1.7`

`uncompress` no value. Forces an uncompressed pdf.

`lang` to set the Lang entry in the Catalog. E.g. `lang=de-DE`. The initial value is `en-US`

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pdfstandard Choice key to set the pdf standard. Currently `A-1b`, `A-2b` and `A-3b` are accepted as values. The underlying code to ensure the requirements (as far as they can be ensured) is incomplete, but a color profile is included and the /OutputIntent is set. More information can be found in the documentation of l3pdfmeta.

pdfmanagement Boolean. This activates/deactivates the core management code. By default the value is true.

firstaidoff This accepts a comma lists of keysword and disable the patches related to them. More information can be found in the documentation of pdfmanagement-first.

1.2 Container for document properties

The package provides a container where classes, packages and users can store properties of the document which are perhaps of interest or use for other packages or the author.

The properties are stored with a key `label/property`. The values can be retrieved expandably.

`\AddToDocumentProperties` `\AddToDocumentProperties[⟨label⟩]{⟨property⟩}{⟨value⟩}`

This stores ⟨*value*⟩ under the key ⟨*label*⟩/⟨*property*⟩. By default ⟨*label*⟩ is the current package name `\@currname`. If another label is choosen, it should be one which avoids clashes with other packages using the container. The label `document` is reserved.

`\GetDocumentProperties` `\AddToDocumentProperties{⟨label/property⟩}`

Expands to the ⟨*value*⟩ corresponding to ⟨*label/property*⟩ in the conttainer. If ⟨*label/property*⟩ is missing, this has an empty expansion. The result is returned within `\exp_not:n`, which means that the ⟨*value*⟩ does not expand further when appearing in an x-type argument expansion.

`\ShowDocumentProperties` `\ShowDocumentProperties`

This show the current content of the container.

2 ltdocinit implementation

2.1 \DeclareDocumentMetadata

```
1 ⟨*package⟩
2 ⟨@@=pdfmanagement⟩
3 \ProvidesExplPackage {ltdocinit} {2021-02-13} {1.0}
4   {Initialize document metadata}
```

`\DeclareDocumentMetadata` should for now not be used after `\documentclass` so we error in this case. It can be used more than once but follow-up calls should not do the initialization code.

```
5 \msg_new:nnn  { document } { setup-after-documentclass }
6               {
7                 \token_to_str:N \DeclareDocumentMetadata \c_space_tl
8                 should~be~used~only~before~\token_to_str:N\documentclass
9               }
```

\DeclareDocumentMetadata

```
\NewDocumentCommand\DeclareDocumentMetadata { m }
  {
    \cs_if_eq:NNTF \documentclass \@twoclasseserror
      { \msg_error:nn { document }{ setup-after-documentclass } }
      {
```

The wanted backend must be detected first, we read the init key and then force the loading by either loading l3pdf (+ expl3) or only expl3.

```
        \keys_set_groups:nnn { pdf / setup} {init}{ #1 }
        %should be loaded after the backend is set, and only if not in the kernel
        \cs_if_free:NTF \pdf_uncompress:
         {\RequirePackage{l3pdf}}{\RequirePackage{expl3}}
```

Now we load the extra backend code and set the boolean to true

```
        \ExplSyntaxOn\makeatletter
          \file_input:n {l3\c_sys_backend_str-pdf.def}
        \ExplSyntaxOff\makeatother
        \bool_gset_true:N \g__pdfmanagement_active_bool
```

set the default language, process the rest of the keys, and setup the generic driver

```
        \keys_set_filter:nnn  { pdf / setup } { init } { lang=en-US, #1 }
        \bool_if:NT \g__pdfmanagement_active_bool
          {
            \PassOptionsToPackage{customdriver=hgeneric-experimental}{hyperref}
          }
```

`\pdfmanagement_add:nnn` has collected values in this hook.

```
        \hook_use_once:n {pdfmanagement/add}
```

Redefine `\DeclareDocumentMetadata` so that it only process the keys. We need to update the hyperref option if the active status changes.

```
        \RenewDocumentCommand\DeclareDocumentMetadata { m }
          {
            \keys_set_filter:nnn  { pdf / setup } { init } { ##1 }
            \bool_if:NTF \g__pdfmanagement_active_bool
             {
               \str_remove_all:cn {opt@hyperref.sty}{customdriver=hgeneric-experimental}
               \PassOptionsToPackage{customdriver=hgeneric-experimental}{hyperref}
             }
             {
               \str_remove_all:cn {opt@hyperref.sty}{customdriver=hgeneric-experimental}
             }
          }
```

Load more modules and the firstaid code.

```
        \RequirePackage{l3pdfutils}
        \RequirePackage{l3pdfannot}
        \RequirePackage{pdfmanagement-firstaid}
      }
  }
```

(*End definition for* `\DeclareDocumentMetadata`. *This function is documented on page* 1.)

2.2 Container for document Properties

The container for the document properties is a prop

\g__pdfmanagement_documentproperties_prop

```
\prop_new:N \g__pdfmanagement_documentproperties_prop %
```

(*End definition for* `\g__pdfmanagement_documentproperties_prop`.)

\AddToDocumentProperties

```
\NewDocumentCommand\AddToDocumentProperties{O{\@currname}mm}
  {
    \exp_args:NNx
      \prop_gput:Nnn \g__pdfmanagement_documentproperties_prop
        {
          \tl_if_blank:eTF {#1}{top-level/}{#1/} #2
        }
        { #3}
  }
```

(*End definition for* `\AddToDocumentProperties`. *This function is documented on page* 2.)

\GetDocumentProperties

```
\NewExpandableDocumentCommand\GetDocumentProperties{m}
  {
    \prop_item:Nn \g__pdfmanagement_documentproperties_prop {#1}
  }
```

(*End definition for* `\GetDocumentProperties`. *This function is documented on page* 2.)

\ShowDocumentProperties

```
\msg_new:nnn  { pdfmanagement } { show-properties }
  {
    The~following~document~properties~have~been~stored:
    #1
  }
\NewDocumentCommand\ShowDocumentProperties {}
  {
    \msg_show:nnx {pdfmanagement}{show-properties}
      {
        %\prop_show:N \g__pdfmanagement_documentproperties_prop
        \prop_map_function:NN \g__pdfmanagement_documentproperties_prop \msg_show_item:nn
      }
  }
```

(*End definition for* `\ShowDocumentProperties`. *This function is documented on page* 2.)

2.3 The keys for \DeclareDocumentMetadata

As they use \AddToDocumentProperties they have to come after it has been defined.

\g__pdfmanagement_firstaidoff_clist A list to store the firstaid code which should be disabled

```
\clist_new:N \g__pdfmanagement_firstaidoff_clist
```

(*End definition for* \g__pdfmanagement_firstaidoff_clist.)

```
\keys_define:nn { pdf / setup }
  {
    backend .code:n =
      {
        \PassOptionsToPackage { driver=#1 } {expl3}
        \AddToDocumentProperties[document]{backend}{#1}
      },
    backend .groups:n = { init } ,
  }

\keys_define:nn { pdf / setup }
  {
    ,pdfversion .code:n =
      {
        \pdf_version_gset:n { #1 }
        \AddToDocumentProperties[document]{pdfversion}{#1}
      }
    ,uncompress .code:n =
      {
        \pdf_uncompress:
      }
    ,uncompress .value_forbidden:n = true
    ,lang .code:n =
      {
        \pdfmanagement_add:nnn {Catalog} {Lang}{(#1)}
        \AddToDocumentProperties[document]{lang}{#1}
      }
    %,xmpmeta .bool_gset:N = \g_pdfmeta_xmp_bool %see pdfmeta unused and undefined for now!
    ,pdfstandard .choices:nn =
      {A-1b,A-2b,A-3b}
      {
        \prop_if_exist:cT { g_pdfmeta_standard_pdf/#1_prop }
          {
            \prop_gset_eq:Nc \g_pdfmeta_standard_prop { g_pdfmeta_standard_pdf/#1 _prop }
          }
        \AddToDocumentProperties [document]{standard}{#1}
      }
    ,pdfstandard / unknown .code:n =
      {
        \msg_warning:nnn{pdf}{unknown-standard}{#1}
      }
    ,pdfmanagement .bool_gset:N = \g__pdfmanagement_active_bool
    ,pdfmanagement .initial:n =  {true}
    ,firstaidoff .clist_gset:N = \g__pdfmanagement_firstaidoff_clist
  }
```

⟨/package⟩

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