# Preparing DFG Proposals and Reports in LATEX with dfgproposal.cls

# Michael Kohlhase Computer Science, Jacobs University Bremen http://kwarc.info/kohlhase

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#### Abstract

The dfgproposal class supports many of the specific elements of a DFG Proposal. It is optimized towards collaborative projects. The package comes with an extensive example (a fake DFG proposal) that shows all elements in action.

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#### 1 Introduction

Writing grant proposals is a collaborative effort that requires the integration of contributions from many individuals. The use of an ASCII-based format like LATEX allows to coordinate the process via a source code control system like Subversion, allowing the proposal writing team to concentrate on the contents rather than the mechanics of wrangling with text fragments and revisions.

The dfgproposal class extends the proposal class [Kohlhase:pplp:ctan] and supports many of the specific elements of a DFG Proposal. The package documentation is still preliminary, fragmented and incomplete and only dwells on the particulars of DFG proposals, so we treat [Kohlhase:pplp:ctan] as a prerequisite. Please consult the example proposal dfg/proposal.tex, which comes with the package and shows the usage of the class in action. It is intended as a template for your proposal, but please bear in mind that the DFG guidelines may change, if in doubt, please consult the DFG guide for proposers [DFG:102e].

The dfgreporting class supports most of the specific elements of the final project reports to the DFG. The example report dfg/finalreport.tex is intended as a template for your final report, the DFG guide [DFG:2012e] gives details (the German Version [DFG:201] has more).

The dfgproposal and dfgreporting classes and the dfgpdata package are distributed under the terms of the LaTeX Project Public License from CTAN archives in directory macros/latex/base/lppl.txt. Either version 1.0 or, at your option, any later version. The CTAN archive always contains the latest stable version, the development version can be found at https://github.com/KWARC/LaTeX-proposal. For bug reports please use the sTeX TRAC at https://github.com/KWARC/LaTeX-proposal/issues.

## 2 The User Interface

In this section we will describe the functionality offered by the dfgproposal class along the lines of the macros and environments the class provides. Much of the functionality can better be understood by studying the functional example proposal.tex (and its dependents) that comes with the dfgproposal package in conjunction with the proposer's leaflet of the DFG [DFG:102e] (we have included it as 1\_02e.pdf for convenience into the package distribution).

EdN:1

### 2.1 Package Options

As usual in  $\LaTeX$ , the package is loaded by  $\documentclass[\langle options \rangle] \{dfgproposal\}$ , where  $[\langle options \rangle]$  is optional and gives a comma separated list of options specified in [Kohlhase:pplp:ctan]. The dfgproposal class adds the two options

- general, which allows generates a title page and first section with general proposal metadata
  (as the old form proposals required). This is useful to check all the data (and have a
  place to copy/paste from). Also this should be used together with the public option (see
  in [Kohlhase:pplp:ctan]) to generate public versions of the proposal.
- 2. german, which makes all the generated parts in German.

german

proposal

general

#### 2.2 Proposal Metadata and Title page

The metadata of the proposal is specified in the proposal environment, which also generates the title page and the first section of the proposal as well as the last pages of the proposal with the signatures, enclosures, and references. The proposal environment should contain all the mandatory parts of the proposal text. The proposal environment uses the following DFG-specific keys to specify metadata.

• thema for a concise (up to 140 characters) description of the topic of the proposal. This has to be in German and will be used by the DFG in internal communications and publications.

thema

<sup>&</sup>lt;sup>1</sup>EdNote: talk about reporting as well.

#### 2.3 Project-Related Papers

Since August 2010, DFG requests list of "project-related papers" as Section 2.2. of the proposal.  $\langle refs \rangle$  is a comma-separated list of bibTeX keys from the bibTeX database used in the proposal. The  $\langle keys \rangle$  that specify whether sub-bibliographies are generated (if  $\langle keys \rangle$  is non-empty) and which, and in which order. The  $\langle keys \rangle$  includes any of the following: articles, chapters, confpapers, confpapers, wspapers, theses, submitted, books, and techreports. Both confpapers and wspapers correspond to the bibTeX entry type @inproceedings, but the first have the additional specification keywords = {conference}, somewhere in the entry to specify that this entry is in the archival literature.

So \dfgprojpapers[books,articles,confpapers]{ $\langle keys \rangle$ } splits the generate bibliography in to three sub-bibliographies with the titles: "Articles", "Monographs", and "Conference Papers". The headings can be customized – e.g. to another language by adding \def\prop@ $\langle key \rangle$ @heading{ $\langle Heading \rangle$ } in the preamble.

featured

The papers listed in \dfgprojpapers are put into a special bibLATEX category featured, and can thus be excluded from the general bibliography by adding notcategory=featured to the final \printbibliography.

#### 2.4 Final Report Infrastructure

finalreport

reportperiod
applareas
\*employed
key

The dfgreporting class gives an infrastructure for writing final reports of completed projects (see the file finalreport.tex in the package distribution). The finalreport environment has functionality analogous to the proposal environment. It takes the same metadata keys — making it easy to generate by copy/paste from the proposal — but adds the keys reportperiod for specifying the funded period, applareas for the application areas, and  $\langle site \rangle$  employed for all sites  $\langle site \rangle$ . The latter allow to specify the employee and their employment times. Furthermore, the key key can be used to specify the reference key (something like KO 2428 47-11) given to the project by DFG. Note that in the case of multiple proposers, you can use multiple instances of key to specify more than one reference key.

#### 3 Limitations and Enhancements

The dfgproposal is relatively early in its development, and many enhancements are conceivable. We will list them here.

- 1. Some people still want to write their proposal and reports in German, for that it would be nice to have a localized version.
- 2. it would be nice if we could count the characters in the places where lengths are restricted (Abriss, and thema). Then we could warn the authors.

If you have other enhancements to propose or feel you can alleviate some limitation, please feel free to contact the author.

# Acknowledgements

The following persons have contributed suggestions and fixes to the dfgproposal class: Florian Rabe, Christoph Lange, Andrea Kohlhase, Jens Lehmann.

# 4 The Implementation

In this section we describe the implementation of the functionality of the dfgproposal and dfgreporting classes and the dfgpdata package.

## 4.1 Package Options and Format Initialization

We first set up the options for the package.

```
1 (cls)\newif\ifgeneral\generalfalse
2 \( \cls \)\DeclareOption{general} {\generaltrue}
3 (cls | reporting)\DeclareOption{german}{\PassOptionsToPackage{\CurrentOption}{dfgpdata}}
4 \( \text{\CurrentOption} \{ \text{\PassOptionsToClass{\CurrentOption} \{ \text{\proposal} \} \}
5 \(\reporting\)\DeclareOption*{\PassOptionsToClass{\CurrentOption}{reporting}}
6 \(\rangle pdata \)\\newif\\ifdeutsch\\deutschfalse
7 (pdata)\DeclareOption{german}{\deutschtrue\message{Deutscher Antrag}}
 8 (cls | reporting | pdata)\ProcessOptions
   Then we load the packages we make use of
9 (cls)\LoadClass{proposal}
10 (reporting)\LoadClass{reporting}
11 (*cls | reporting)
12 \RequirePackage{eurosym}
13 \RequirePackage{dfgpdata}
14 \ifdeutsch\RequirePackage[ngerman]{babel}
15 \else\RequirePackage[ngerman,english]{babel}\fi
16 (/cls | reporting)
```

#### 4.2 Proposal Metadata

```
We extend the metadata keys from the proposal class.
 17 (*pdata)
 18 \end{area} $$ \end{area} 
 19 (/pdata)
 and now the ones for the final report
 20 (*reporting)
 21 \define@key{prop@gen}{reportperiod}{\def\prop@gen@reportperiod{#1}}
 22 \define@key{prop@gen}{applareas}{\def\prop@gen@applareas{#1}}
23 \define@key{prop@gen}{key}{\@dmp{key=#1}%
 24 \end{prop} gen@keys{{\xdef\prop} gen@keys{{\xdef\prop} gen@keys{{\yrop} gen@keys{{\yro
 25 \define@key{prop@gen}{coop}{\@dmp{coop=#1}%
 26 \end{fined for particles} {\end{fined for particles} } {\end{fined fined for particles} } {\end{fined fined for particles} } {\end{fined fined 
 27 \define@key{prop@gen}{projpapers}{\def\prop@gen@projpapers{#1}}
 28 (/reporting)
                        and the default values, these will be used, if the author does not specify something better.
 30 \renewcommand\prop@gen@instrument{Neuantrag auf Sachbeihilfe}
 31 \newcommand\prop@gen@thema{??? Thema ???}
```

Now, we can build the title page and general information, we first start with the applicants table. The following macros build up the lines to be used in the table eventually.

\dfg@applicants@\*

the macros use the \prop@t1 macro from the base proposal package which iterates over the first argument (the PIs here) building up lines with the material from the second argument (where \t1@ext is the current PI).

33 \newcommand\dfg@applicants@lines{%

32 \newcommand\deu[1]{#1}

```
34 \prop@tl\prop@gen@PIs{\wa@ref3{person}\tl@ext{personaltitle} \wa@ref3{person}\tl@ext{name}}\\
                                 35 \prop@tl\prop@gen@PIs{\wa@ref3{person}\tl@ext{academictitle}}\\
                                 36 \prop@tl\prop@gen@PIs{\wa@ref3{person}\tl@ext{birthdate}}\\}
                                37 \newcommand\dfg@applicants@institute@lines{%
                                 38 \prop@tl\prop@gen@PIs{\wa@ref3{institution}{\wa@ref3{person}\tl@ext{affiliation}}{shortname}}\\
                                 39 \prop@tl\prop@gen@PIs{\wa@ref3{person}\tl@ext{workaddress}}\\
                                 40 \prop@tl\prop@gen@PIs{Tel: \wa@ref3{person}\tl@ext{worktel}}\\
                                {\tt 41 \prop@tl\prop@gen@PIs{Fax: \wa@ref3{person}\tl@ext{workfax}}} \\ {\tt 41 \prop@tl\prop\columnweartheta} \\ {\tt 41 \prop\columnweartheta} \\ {\tt 41 \prop\columnweartheta} \\ {\tt 42 \prop\columnweartheta} \\ {\tt 43 \prop\columnweartheta} \\ {\tt 44 \prop\columnweartheta} \\ {\tt 45 \prop\
                                 42 \prop@tl\prop@gen@PIs{\wa@ref3{person}\tl@ext{email}}\\}
                                 43 \newcommand\dfg@applicants@private@lines{%
                                 44 \prop@tl\prop@gen@PIs{\wa@ref3{person}\tl@ext{privaddress}}\\
                                 45 \prop@tl\prop@gen@PIs{Tel: \wa@ref3{person}\tl@ext{privtel}}\\}
                                We automatically make it plurals if there is more than one PI and we indicate a joint proposal if
   \dfg@applicants
                                there is more than one site.
                                 46 \newcommand\dfg@applicants{%
                                 47 \subsection{\if@sites\ifnum\the@sites>1 Joint Proposal; \fi\fi%
                                 48 Applicant\if@sites\ifnum\the@PIs>1{s}\fi\fi\ \deu{(Antragsteller)}}%
                                 49 \dfg@applicants@table}
                                 50 \newcommand\dfg@topic{\subsection{\ifdeutsch Thema\else Topic \deu{(Thema)}\fi}\prop@gen@thema}
                                 51 \newcommand\dfg@area@field{%
                                 52 \ifdeutsch\subsection{Fachgebiet und Arbeitsrichtung}\else
                                 53 \subsection{Research area and field of work \deu{(Fachgebiet und Arbeitsrichtung)}}\fi
                                 54 \ifdeutsch Disziplin\else Scientific discipline\fi: \prop@gen@discipline\\
                                 55 \ifdeutsch Arbeitsgebiet\else Fields of work\fi: \prop@gen@areas}
                                 56 (/pdata)
   sitedal Scription
                                 58 \newenvironment{sitedescription}[2][]%
                                60 \textsc{\wa@ref3{institution}{#2}{name}}}
                                 61 \@for\@I:=#2\do{\pdata@target{site}\@I{}}\subsubsection\@@title}
                                 62 {}
                                 4.3
                                            Proposal Title Page
                                Now, we can build the title page and general information, we first start with the applicants
@applicants@table
                                 table: We first compute the width of the columns for the case where we have more than two
                                 PIs. Then we add the lines we compute with the auxiliary macros \dfg@applicants@lines,
                                 \dfg@applicants@institute@lines and \dfg@applicants@private@lines
                                 63 \newlength\applicants@table@columnwidth
                                 64 \newcommand\dfg@applicants@table%
                                 65 {\setlength\applicants@table@columnwidth\textwidth
                                 66 \advance\applicants@table@columnwidth by -6em
                                67 \divide\applicants@table@columnwidth by \the@PIs
                                 68 \ifnum\the@PIs>2\begin{tabular}{|||*{\the@PIs}{p{\applicants@table@columnwidth}|}}
                                69 \else\begin{tabular}{||1|*{\the@PIs}{1|}}\fi
                                 70 \hline
                                 71 \dfg@applicants@lines\hline
                                 72 &\multicolumn{\the@PIs}{|1|}{\textbf{Work Address\deu{ (Dienstanschrift)}:}}\\\hline
                                 73 \dfg@applicants@institute@lines\hline
                                 74 &\multicolumn{\the@PIs}{|1|}{\textbf{Private Address\deu{ (Privatanschrift)}:}}\\\hline
                                75 \dfg@applicants@private@lines\hline
```

76 \end{tabular}}

<sup>&</sup>lt;sup>2</sup>EdNote: this code should probably be refactored into proposal.dtx

```
prop@proposal This internal environment is called in the proposal environment from the proposal class.
               77 \renewenvironment{prop@proposal}
               78 {\ifgeneral
               79 \ifsubmit\setcounter{page}{1}\else
               80 \thispagestyle{empty}%
               81 \begin{center}
               82 {\LARGE \prop@gen@instrument}\\[.2cm]
               83 {\LARGE\textbf{\prop@gen@title}}\\[.3cm]
               84 \ifx\prop@gen@acronym\@empty\else{\LARGE Acronym: {\prop@gen@acronym}}\\[.2cm]\fi
               85 {\large\today}\\[1em]
               86 \WAauthorblock[aff]\prop@gen@PIs\\[2cm]
               87 \end{center}
               88 \setcounter{section}{-1}
               89 \edef\keep@tocdepth{\value{tocdepth}}
               90 \setcounter{tocdepth}{2}\tableofcontents
               91 \setcounter{tocdepth}{\keep@tocdepth}
               92 \newpage\thispagestyle{empty}
               93 \ifdeutsch\section{Allgemeine Angaben (nur f\"ur ELAN)}\else
               94 \section{General Information (for the ELAN system only)}\fi
               95 \dfg@applicants
               96 \dfg@topic
               97 \dfg@area@field
               98 \ifdeutsch\subsection{Voraussichtliche Gesamtdauer}\else
               99 \subsection{Anticipated total duration \deu{(Voraussichtliche Gesamtdauer)}}
               100 \fi% ifdeutsch
              101 \@ifundefined{prop@gen@totalduration}{????}{\prop@gen@totalduration};
              103 \@ifundefined{prop@gen@since}{Erstantrag}{Fortsetungsantrag, das Project 1\"auft seit
              104 \prop@gen@since.}
              105 \else
              106 \@ifundefined{prop@gen@since}{initial proposal}{continuation proposal, the project started
                   \prop@gen@since.}
              108 \fi%ifdeutsch
              109 \verb| \fdeutsch\subsection{Antragszeitraum} \verb| else |
              110 \subsection{Application period \deu{(Antragszeitraum)}}\fi
              111 \prop@gen@months\quad Months starting \prop@gen@start
              112 \@ifundefined{prop@gen@fundsuntil}{}
              113 { (\ifdeutsch Mittel reichen bis\else funds last until\fi\ \prop@gen@fundsuntil)}
              114 \ifdeutsch\else\selectlanguage{english}\fi
              115 \newpage
              116 \setcounter{page}{0}%
              117 \fi\fi}% ifsubmit ifgeneral
               We also need to translate some of the generated parts
              119 \ifdeutsch
               120 \def\prop@warnpubs@message{Viele der Publikationen der Antragsteller sind verf\"ugbar unter folgenden URLs:}
              121 \def\prop@warnpubs@title{Literatur}
              122 \fi
                                                                                                               EdN:3
 \attachments
              123 \newcommand\attachments{\ifdeutsch\section{Verzeichnis der Anlagen}\else
              124 \section{List of Attachments \deu{(Verzeichnis der Anlagen)}}\fi
              125 \begin{itemize}
              126 \@for\@I:=\prop@gen@PIs\do{%
```

127 \item\ifdeutsch Lebenslauf und Publikatinsverzeichnis\else

 $<sup>^3\</sup>mathrm{EdNote}$ : MK: this is deprecated (no longer useful with the ELAN system), delete at some time

```
Curriculum Vitae and list of publications for \fi
128
      \@nameuse{wa@person@\@I @personaltitle}
129
      \@nameuse{wa@person@\@I @name}
130
     (CD + \ifdeutsch Ausdruck\else printed version\fi)}
131
132 \ifdeutsch
133 \item Publications either cited in section \ref{sec:ourpubs} or occurring in one of the
134 curricula vitae (CD only)\else
135 \item Zitierte Publikationen aus Abschnitt~\ref{sec:ourpubs} oder einem der Lebensl\"aufe
     (nur CD)\fi
137 \end{itemize}}
138 \langle /cls \rangle
       Reporting Title Page
```

The prop@report environment is similar, but somewhat simpler.

prop@report

```
150 \newcommand\prop@assoc[2]{\let\@tmpop=\relax\@for\@I:=#2\do{\@tmpop\@I\let\@tmpop=#1}}
151 \newcommand\show@prop@gen@keys{\def\@cb{, }\@ifundefined{prop@gen@keys}{??:???? ?/?}{\prop@assoc\@cb\prop@gen@keys}
152 \renewenvironment{prop@report}
153 {\selectlanguage{english}
154 \thispagestyle{empty}%
155 \begin{center}
     {\LARGE Final Project Report}\\[.2cm]
156
     {\LARGE\textbf{\prop@gen@title}}\\[.3cm]
157
158 \ifx\prop@gen@acronym\@empty\else{\LARGE Acronym: {\prop@gen@acronym}}\\[.2cm]\fi
     {\large Reference number(s): \show@prop@gen@keys}\\[.2cm]
159
     {\large\today}\\[1em]
160
    \begin{tabular}{c*{\the@PIs}{c}}
161
      \prop@tl\prop@gen@PIs{\wa@ref3{person}\tl@ext{name}}\\
162
      \prop@tl\prop@gen@PIs{\wa@ref3{institution}{\wa@ref3{person}\tl@ext{affiliation}}{name}}
163
164 \end{tabular}\\[2cm]
165 \end{center}
166 \setcounter{tocdepth}{1}\tableofcontents\newpage\setcounter{page}{1}
167 \section{General Information \deu{(Allgemeine Angaben)}}
168 \subsection{Reference Numbers \deu{(DFG Gesch\"aftszeichen)}}
169 \show@prop@gen@keys
170 \dfg@applicants
171 \subsection{Institute/Chair \deu{(Institut/Lehrstuhl)}}\dfg@institute@table
172 \dfg@topic
173 % no longer necessary
174 %\subsection{DFG-Funded Researchers \deu{(Aus DFG-Mitteln bezahlte Wissenschaftler)}}
```

175 % \begin{tabular}{||1||}\hline

```
176 % Partner & Employee/Period\\hline\hline
177 % \prop@gen@employed@lines
178 % \end{tabular}
179 \subsection{Report and Funding Period \deu{(Berichts- und F\"orderzeitraum)}}
180 \prop@gen@reportperiod
181 \dfg@area@field
182 \subsection{Application Areas \deu{(Verwertungsfelder)}}\prop@gen@applareas
183 % no longer necessary
184 % \subsection{Cooperation Partners \deu{(Kooperationspartner)}}
185 % \begin{compactitem}
186 % \@for\@I:=\prop@gen@coops\do{\item \@I}
187 % \end{compactitem}
188 \dfgprojpapers\prop@gen@projpapers}
189 {\signatures{Signatures \deu{(Unterschriften)}}}
190 (/reporting)
191 (*cls)
192 \ifgeneral
193 \newenvironment{Zusammenfassung}{\thispagestyle{empty}\subsection{Zusammenfassung}\begin{otherlanguage}{ngerm
194 {\end{otherlanguage}\newpage\setcounter{page}1}
195 \newenvironment{Summary}{\thispagestyle{empty}\subsection{Summary}}
196 {\newpage\setcounter{page}1}
197 \else
198 \excludecomment{Summary}
199 \excludecomment{Zusammenfassung}
200 \fi
201 (/cls)
```

#### 4.5 Project-Related Papers

#### \dfgprojpapers

#### 4.6 German Reports

We have to redefine some macros for German reports.

```
205 (*pdata)
206 \ifdeutsch
207 \renewcommand\prop@count[1]{\ifcase #1 null\or ein\or zwei\or drei\or vier\or f"unf\or sechs\or sieben\or
    acht\or neun\or zehn\or elf\or zw"olf\else#1\fi}
209 \renewcommand\prop@of@pages[2]{Seite~#1\ifofpage~von~#2\fi}
210 \renewcommand\wp@mk@title[1]{Arbeitspaket {#1}}
211 \renewcommand\wp@label[1]{AP{#1}}
212 \ifwork@areas
213 \renewcommand\wa@label[1]{AB{#1}}
214 \renewcommand\wa@mk@title[1] {Arbeitsbereich {#1}}
216 \renewcommand\prop@legend@totals{\textbf{Summen}}
217 \renewcommand\prop@legend@intendedtotals{\textbf{intendierte Summen}}
218 \renewcommand\wpfig@legend@wap{\textbf{\ifwork@areas{Arbeitsbereiche}\else{AP}\fi}}
219 \renewcommand\wpfig@legend@title{\textbf{Titel}}
220 \renewcommand\wpfig@legend@type{\textbf{Typ}}}
221 \renewcommand\wpfig@legend@page{\textbf{Seite}}
222 \renewcommand\wpfig@legend@start{\textbf{Start}}
223 \renewcommand\wpfig@legend@length{\textbf{Dauer}}
224 \renewcommand\wpfig@legend@end{\textbf{Ende}}
```

```
225 \renewcommand\wpfig@legend@siteRM[1]{\site{#1}\if@RAM\ PM\fi}
226 \renewcommand\wpfig@legend@siteRAM[1]{\site{#1}\ HM}
227 \verb|\renewcommand\wpfig@legend@totalRM{Summe\if@RAM\ PM\fi}|
228 \renewcommand\wpfig@legend@totalRAM{Summe HM}
229 \renewcommand\wpfig@legend@RM{PM}
230 \renewcommand\wpfig@legend@RAM{HM}
231 \renewcommand\wpfig@legend@RAM@expl{\if@RAM P/HM $\widehat=$ Personen/Hilfskraft Monate\else\ Aufw\"ande in F
232 \renewcommand\wpfig@legend@lead@expl{Arbeitspaketleiter sind \wp@lead@style@explained}
233 \renewcommand\wp@lead@style@explained{grau und kursiv markiert}
234 \renewcommand\wpfig@legend@caption{{\ifwork@areas Arbeitsbereiche und \fi}Arbeitspakete}
235 \renewcommand\wp@legend@site{Partner}
236 \renewcommand\wp@legend@effort{Aufwand\if@RAM{ (PM+HM)}\fi}
237 \renewcommand\wp@legend@all{\textbf{Summe}}
238 \end{minipage} \label{limited} white $$12.3 \end{minipage} \end{minipage} \end{minipage} $$12.3 \end{minipage} \end{mini
239 \renewcommand\gantt@footnote{Balken mit reduzierter H\"ohe (z.B. 50\%) bedeuten reduzierte Arbeitslast in die
240 \verb| verteilung der Arbeitspakete| \\
241 \renewcommand\gantt@caption@lower{draft: unten die Lastverteilung}
242 \renewcommand\coherence@caption{Bisherige Kollaboration der {\pn} Partner}
243 \renewcommand\objective@label[1]{Z#1}
244 \renewcommand\task@label[2]{S#1.#2}
245 % \renewcommand\month@label[1]{M#1}
246 \renewcommand\legend@partners{Partner}
247 \renewcommand \legend@lead {Leiter}
248 \renewcommand\task@label@long{Schritt}
249 \renewcommand\task@legend@partners{MA: }
250 \renewcommand\task@legend@PM{PM}
```

 $251 \fi$ %ifdeutsch  $252 \fi$ pdata $\fi$