The komacv-multilang Package*

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Introduction

The goal of komacv-multilang is to simplify the specification and maintenance of a CV in multiple languages. More concretely, komacv-multilang enables one

- to specify translations for pieces of content such that they are located closely together and easily identifiable as belonging together; and
- to change the document's language as simple as changing the babel or polyglossia language.

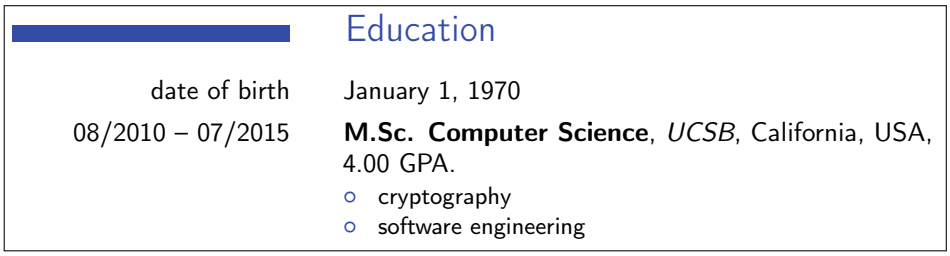
That is, with komacv-multilang, you can continuously expand and improve your CV in more than one language and when you actually want to use the CV, you choose a language and restrict the content to what you want to show.

The komacv-multilang package is realized as proxy to the komacv class. The latter package enables one to typeset CVs in one of three styles provided by the package or in a custom-made style. komacv-multilang uses the multilang package to define a set of macros and environments that establish a multilingual interface to komacv's macros and LaTeX's sectioning and list macros and environments. The macros and environments of komacv-multilang provide a proxy to all macros of komacv that produce CV entries. That is, with komacv-multilang, it should not be necessary to use komacv directly for CV entries, even though it is still possible to use komacv macros.

The remainder of this introduction provides an example based on komacv's "casual" style. The komacv-multilang package is not limited to a specific style but bases on the macro interface provided by the core komacv class (i.e., macros like `\cvitem` and `\cventry`). The example shows a toy excerpt of a multilingual CV with komacv-multilang (Figure 1). For comparison, the same CV is also produced with pure komacv (Figure 2) and an ad-hoc approach to specifying the translations.

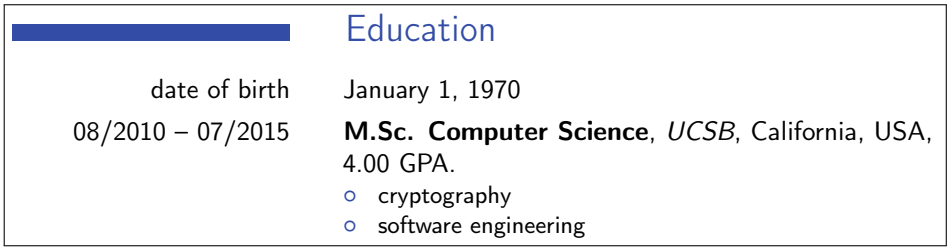
The example shows the document preamble, sectioning, a simple as well as a more involved CV entry, date range specification, and list entries. The example can be used for getting an intuition about komacv-multilang as well as for deciding whether to use komacv-multilang (or rather an ad-hoc approach as in Figure 2).

*This document corresponds to komacv-multilang v0.9.2, dated 2018/11/02. The package is available online at http://www.ctan.org/pkg/komacv-rg and https://github.com/Ri-Ga/komacv-rg.




```
% in preamble
\documentclass[style=casual]{komacv}
\usepackage[english]{babel}
\usepackage[languages={english,german}]{komacv-multilang}
% in document
\begin{Section}{
    title/english       = Education,
    title/german        = Schulische Ausbildung}
  \BasicEntry{
    header/english      = {date of birth},
    header/german       = {Geburtsdatum},
    text/date           = {1970-01-01},
  }
  \EducationEntry{
    when/daterange      = {2010-08-01}{2015-07-31},
    degree/english      = M.Sc.{} Computer Science,
    degree/german       = Master Informatik,
    institution         = UCSB,
    where/english       = {California, USA},
    where/german        = {Kalifornien, USA},
    grade/english       = 4.00 GPA,
    grade/german        = {Gesamtnote 1,0},
    details/list        = {
      \Item{
        value/english   = {cryptography},
        value/german    = {Kryptographie},
      }
      \Item{
        value/english   = {software engineering},
        value/german    = {Software-Engineering},
      }
    },
  }
\end{Section}
```

Figure 1: Multilingual CV with komacv-multilang




```
% in preamble
\documentclass[style=casual]{komacv}
\usepackage[english]{babel}
\newcommand\inEnglish[1]{#1}
\newcommand\inGerman[1]{}
% in document
\section{\inEnglish     {Education}%
         \inGerman      {Schulische Ausbildung}}
\cvitem{\inEnglish      {date of birth}%
        \inGerman       {Geburtsdatum}}
       {\inEnglish      {January 1, 1970}%
        \inGerman       {1.{} Januar 1970}}
\cventry                {08/2010 -- 07/2015}
        {\inEnglish     {M.Sc.{} Computer Science}%
         \inGerman      {Master Informatik}}
                        {UCSB}
        {\inEnglish     {California, USA}%
         \inGerman      {Kalifornien, USA}}
        {\inEnglish     {4.00 GPA}%
         \inGerman      {Gesamtnote 1,0}}%
        {\begin{compactitem}
        \item\inEnglish {cryptography}%
             \inGerman  {Kryptographie}
        \item\inEnglish {software engineering}%
             \inGerman  {Software-Engineering}
        \end{compactitem}}
```

Figure 2: Multilingual CV with komacv

Usage

Package Loading

The komacv-multilang package is loaded like any other package. The only requirements to pay attention to are, firstly, komacv-multilang must be loaded after babel or polyglossia, and secondly, komacv-multilang must be loaded after the komacv class. This ensures that komacv-multilang can detect the document's language and that it can apply fixes to komacv.

`languages` The komacv-multilang package has one package option: `languages`. Through this option, the set of languages known to komacv-multilang is specified, as a comma-separated list. The following section includes an example of loading komacv-multilang.

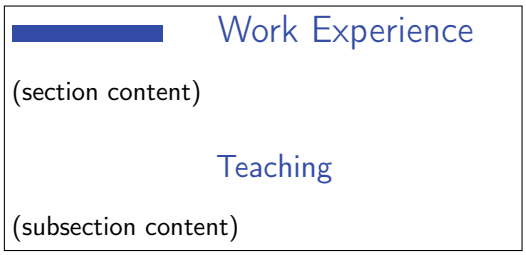
Sections

The komacv-multilang package utilizes multilang-sect for sectioning environments. Under the komacv class, these environments produce sections in the respective loaded komacv style. The following documentation essentially repeats what is also stated in the multilang documentation.

`\begin{Section}{`⟨*data*⟩`}`
`\end{Section}` This environment shows a section. It has a single, mandatory argument, named `title`. It is a disablable environment, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the whole section. This environment acts as a proxy for the `\section` macro as it is used by komacv (i.e., without optional argument and without the star).

`\begin{SubSection}{`⟨*data*⟩`}`
`\end{SubSection}` This environment is analogous to the `Section` environment, just for sub-sections. Examples:

```
% in preamble
\documentclass[style=casual]{komacv}
\usepackage[english]{babel}
\usepackage[languages={english,german}]
           {komacv-multilang}
% in document
\begin{Section}{
    title/english = Work Experience,
    title/german  = Berufserfahrungen,
  }
  (section content)
  \begin{SubSection}{
      title/english = Teaching,
      title/german  = Lehre,
    }
    (subsection content)
  \end{SubSection}
\end{Section}
```



The example shows several aspects: (1) how the komacv-multilang package is loaded and how its `languages` option is used and (2) how the `Section` and `SubSection` environments can be used.

CV Entries

The komacv provides a set of macros for typesetting CV entries. In the following, we introduce the proxies for these macros provided by komacv-multilang.

`\BasicEntry{`⟨*data*⟩`}`

This macro has two mandatory arguments, named `header` and `text`, and one optional argument, named `spacing`. The argument alias `both` can be used to specify the `header` and `text` simultaneously. It is a disablable macro, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the entry. This macro acts as a proxy for komacv's `\cvitem` macro. That is, the value of the `header` argument is displayed in the hint column and the `text` is displayed in the main column. The value of the `spacing` argument specifies the vertical spacing below the CV entry. Examples:

```
\BasicEntry{
  header/english = date of birth,
  header/german  = Geburtsdatum,
  text/date      = 1970-01-01,
}
\BasicEntry{disabled,
  both/english   = {marital status}{single},
  both/german    = {Familienstand}{ledig},
}
```

date of birth	January 1, 1970

The example shows several aspects: (1) how translated values for the arguments `header` and `text` are specified, (2) how a date can be specified (in the `yyyy-mm-dd` format) for a localized display, (3) how the display of an entry can be disabled, (4) how the `both` argument can be used, and (5) how the LaTeX source code can be aligned such that it is easily readable despite the presence of translations.

`\CommentedEntry{`⟨*data*⟩`}`

This macro has three mandatory arguments, named `header`, `text`, and `comment`, as well as one optional argument named `spacing`. The argument alias `all` can be used to specify `header`, `text`, and `comment` simultaneously. It is a disablable macro, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the entry. This macro acts as a proxy for komacv's `\cvitemwithcomment` macro. That is, the value of the `header` argument is displayed in the hint column, the `text` is displayed in the main column and the `comment` is displayed right-aligned in the main column. The value of the `spacing` argument specifies the vertical spacing below the CV entry. Examples:

```
\CommentedEntry{
  all/english    = {English}{fluent}
                   {(oral and written)},
  all/german     = {Englisch}{flie{\ss}end}
                   {(in Wort und Schrift)}
}
\CommentedEntry{
  header/english = German,
  header/german  = Deutsch,
  text/english   = mother tongue,
  text/german    = Muttersprache,
  comment        = {},
}
```

English	**fluent**	*(oral and written)*
German	**mother tongue**	

The example shows several aspects: (1) how the `all` argument alias can be used, (2) how arguments can be broken into multiple lines, (3) how translated values for the arguments `header`, `text`, and `comment` are specified, and (4) how an argument can be left empty in all languages (`comment`).

`\DoubleEntry{`⟨*data*⟩`}`

This macro has four mandatory arguments, named `header1`, `text1`, `header2`, and `text2`, as well as one optional argument named `spacing`. The argument aliases `first` and `second` can be used to specify `header1`, and `text1`, respectively, `header2` and `text2` simultaneously. It is a disablable macro, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the entry. This macro acts as a proxy for komacv's `\cvdoubleitem` macro. That is, the value of the `header1` argument is displayed in the hint column, and the values of `text1`, `header2`, and `text2` are displayed in a columned fashion in the main column. The value of the `spacing` argument specifies the vertical spacing below the CV entry. Example:

```
\DoubleEntry{
  first  = {h1}{t1},
  second = {h2}{t2},
}
```

h1	t1	h2	t2

The example shows how the `first` and `second` argument aliases can be used. Further possibilities for specifying the arguments, including translations, are analogous to the cases of `\BasicEntry` and `\DoubleEntry`.

`\EducationEntry{`⟨*data*⟩`}`

This macro has five mandatory arguments, named `when`, `degree`, `institution`, `where`, and `grade`, as well as two optional arguments, named `spacing` and `details`. It is a disablable macro, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the entry. This macro acts as a proxy for komacv's `\cventry` macro. That is, the value of the `where` argument is displayed in the hint column, whereas the values for the other arguments are displayed in the main column (in the order they are listed). The value of the `spacing` argument specifies the vertical spacing below the CV entry. Example:

```
\EducationEntry{
  when/daterange = {2010—08—01}{2015—07—31},
  degree/english = M.Sc.{} Computer Science,
  degree/german  = Master Informatik,
  institution    = UCSB,
  where/english  = {California, USA},
  where/german   = {Kalifornien, USA},
  grade/english  = 4.00 GPA,
  grade/german   = {Gesamtnote 1,0},
  details        = {(e.g., honors, awards)},
}
```

08/2010 – 07/2015	**M.Sc. Computer Science**, *UCSB*, California, USA, 4.00 GPA. (e.g., honors, awards)

The example shows a few notable aspects: (1) how the arguments can be used, (2) how a date range can be specified (for the `when` argument), and (3) how curly braces can be used to deal with commas in argument values (for the `where`, `grade`, and `details` arguments).

`\EmploymentEntry{`⟨*data*⟩`}`

This macro has four mandatory arguments, named `when`, `title`, `employer`, and

`where`, as well as two optional arguments, named `spacing` and `description`. It is a disablable macro, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the entry. This macro acts as a proxy for komacv's `\cventry` macro, as also `\EducationEntry`. The `\EmploymentEntry` specializes to detailed entries about professional/work experiences. Example:

```
\EmploymentEntry{
  when/daterange = {2015–08–01}{*},
  title/english  = Software engineer,
  title/german   = Softwareentwickler,
  employer       = XYZ Development,
  where/english  = {California, USA},
  where/german   = {Kalifornien, USA},
  description    = {Java, JavaScript},
}
```

08/2015 – today	**Software engineer**, *XYZ Development*, California, USA. Java, JavaScript

`\AchievementEntry{`⟨*data*⟩`}`

This macro has two mandatory arguments, named `when` and `title`, as well as four optional arguments, named `spacing`, `occasion`, `where`, and `description`. It is a disablable macro, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the entry. This macro acts as a proxy for komacv's `\cventry` macro, as also `\EducationEntry` and `\EmploymentEntry`. The `\AchievementEntry` specializes to entries about achievements. Example:

```
\AchievementEntry{
  when/date     = 2016–05–01,
  title/english = employee of the month,
  title/german  = Mitarbeiter des Monats,
  where         = XYZ Development,
}
```

May 1, 2016	**employee of the month**, XYZ Development.

`\EntryListItem{`⟨*data*⟩`}`

This macro has one mandatory argument, `item`, and one optional argument, `label`. It is a disablable macro, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the entry. This macro acts as a proxy for komacv's `\cvlistitem` macro.

`\EntryListDblItem{`⟨*data*⟩`}`

This macro has two mandatory arguments, `first` and `second`, and one optional argument, `spacing`.[1] The argument alias `both` can be used to specify `first` and `second` simultaneously. It is a disablable macro, i.e., the argument `disabled` can be used in ⟨*data*⟩ to disable the display of the entry. This macro acts as a proxy for komacv's `\cvlistdoubleitem` macro. Examples:

```
\BasicEntry{
  header/english = programming,
  header/german  = Programmiersprachen,
  text/english   = {I am proficient in:},
  text/german    = {Ich beherrsche:}}
\EntryListDblItem{both = {Java}{C/C++}}
\EntryListItem   {item = PHP}
```

programming	I am proficient in: ○ Java ○ C/C++ ○ PHP

[1] Note that contrary to the komacv documentation, the optional argument to `\cvlistitem` and `\cvlistdoubleitem` is also the spacing and not a label.

Dates and Lists

The komacv-multilang package defines several datatypes, such as `date` and `daterange`, which are illustrated multiple times above. The following is a complete list of all defined datatypes.

`date`: This datatype expects a date in the format `yyyy-mm-dd` and displays it in the regional format for dates.

`daterange`: This datatype expects two dates in the format `yyyy-mm-dd` and displays them in the same format as `shortdate`, with a "–" in between. If the second date is "`*`", the text "today" (in the selected language) is displayed.

`shortdate`: This datatype expects a date in the format `yyyy-mm-dd` and displays it in the format "mm/yyyy".

`list`: This datatype expects a list of items and displays the items in a compact form. Items can be specified with the standard `\item` macro as well as with the multilingual `\Item{`⟨*data*⟩`}` macro, whose ⟨*data*⟩ parameter expected one mandatory argument, `value`. The following example shows both possibilities.

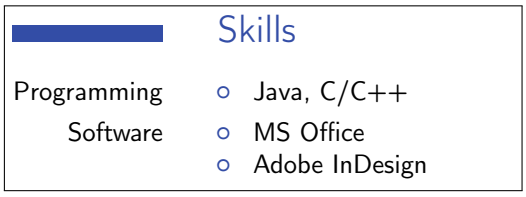
```
\BasicEntry{
  header/english = programming languages,
  header/german  = Programmiersprachen,
  text/list      = {
    \item PHP
    \Item{value     = Java}
    \Item{
      value/english = C and C++,
      value/german  = C und C++}}}
```

programming languages
- PHP
- Java
- C and C++

Tags

The komacv-multilang package utilizes multilang-tags for tag support. Tag support enables one to easily switch between granularities and focuses of a CV. The following just provides an example from the context of typesetting CVs. For more information, please consult the multilang documentation.

```
\DefineTagFilter{Programmer}{accept}{
  accept=PLDetails,     deny=OfficeDetails}
\DefineTagFilter{Consultant}{accept}{
  accept=OfficeDetails, deny=PLDetails}
\UseTagFilter{Consultant}
\begin{Section}{
    title/english    = Skills,
    title/german     = Qualifikationen}
  \BasicEntry{
    header/english   = Programming,
    header/german    = Programmiersprachen,
    text/list        = {
      \Item{value    = {Java, C/C++}}
      \Item{tags     = PLDetails,
            value    = {\LaTeX, Bash}}}}
  \BasicEntry{header = Software,
    text/list        = {
      \Item{value    = MS Office}
      \Item{tags     = OfficeDetails,
            value    = Adobe InDesign}}}
\end{Section}
```



Implementation

The multilang package provides the core feature of komacv-multilang: defining multilingual macros and environments. We load the package with the same options as komacv-multilang. That is, the `languages` option of komacv-multilang is passed on to multilang. We also utilize the multilang extensions for tags and sectioning macros.

```
\RequirePackageWithOptions{multilang}
\RequirePackage{multilang-tags}
\RequirePackage{multilang-sect}
```

For the date datatypes, we use the following packages:

```
\PassOptionsToPackage{useregional}{datetime2}
\RequirePackage{datetime2,datetime2-calc}
\RequirePackage{translations}
```

Datatypes

We define the datatypes before we define the multilingual macros and environments, such that the datatypes are available in the macros and environments.

Date Formatting

First, we define the three datatypes. The code largely speaks for itself.

```
\NewMultilangType{date}{\DTMdate{#1}}
\NewMultilangType{shortdate}{%
  \DTMsetdatestyle{Myyyy}\DTMdate{#1}\DTMsetdatestyle{default}}
\NewMultilangType[2]{daterange}{%
  \DTMsetdatestyle{Myyyy}\DTMdate{#1} --
```

If the second argument to `daterange` equals "`*`", then the text "today" (in the translation for the current language) is displayed rather than a date.

```
  \ifstrequal{#2}{*}%
    {\GetTranslation{today}}%
    {\DTMdate{#2}}\DTMsetdatestyle{default}}
```

Next, we define the `Myyyy` date format, which we use for the `shortdate` and `daterange` style.

```
\DTMnewdatestyle{Myyyy}{%
  \def\DTMdisplaydate##1##2##3##4{\DTMtwodigits{##2}/##1}}
```

Finally, we provide a small set of initial translations for the "today" in `daterange`.

```
\DeclareTranslation{english}{today}{today}
\DeclareTranslation{german}{today}{heute}
\DeclareTranslation{french}{today}{aujourd'hui}
```

List Formatting

First, we define the list type, `list`.

```
\NewMultilangType{list}{\kcvml@list{#1}}
```

`\kcvml@list` For the `list` datatype, the `\kcvml@list{`⟨*items*⟩`}` macro formats an itemized list of multiple items. The items of the list are specified by ⟨*items*⟩. The items can

be specified with \item macros as well as with multilingual \Item macros (i.e., \kcvml@listitem).

```
\newcommand\kcvml@list[1]{%
```

To ensure a proper spacing, we use komacv's compactitem environment and encapsulate this environment inside a minipage. Only inside this environment, we enable the \Item macro.

```
  \begin{minipage}[t]{\linewidth}%
  \let\Item=\kcvml@listitem
  \let\@noitemerr\relax
  \compactitem
  #1%
```

For the case that the last line of the last list item has a small depth, the minipage might yield a bad spacing to content following the list. Hence, we add a \strut here.

```
  \ifhmode\unskip\strut\fi
  \endcompactitem
  \end{minipage}}
```

\kcvml@listitem The \kcvml@listitem{⟨*data*⟩} enables multilingual items as a proxy to the \item macro. We treat \item here as a macro with one argument, as it usually does not harm to write "\item{text}" rather than "\item text".

```
\NewMultilangCmd{\kcvml@listitem}{disablable,
  command=\item, margs=value}
```

CV Entries

\BasicEntry The \BasicEntry{⟨*data*⟩} is a proxy to the \cvitem macro of komacv.

```
\NewMultilangCmd{\BasicEntry}{disablable,
  command=\cvitem,
  oargs={spacing},
  margs={header,text},
  alias/both={header,text},
}
```

\CommentedEntry The \CommentedEntry{⟨*data*⟩} is a proxy to the \cvitemwithcomment macro of komacv.

```
\NewMultilangCmd{\CommentedEntry}{disablable,
  command=\cvitemwithcomment,
  oargs={spacing},
  margs={header,text,comment},
  alias/all={header,text,comment},
}
```

\DoubleEntry The \DoubleEntry{⟨*data*⟩} is a proxy to the \cvdoubleitem macro of komacv.

```
\NewMultilangCmd{\DoubleEntry}{disablable,
  command=\cvdoubleitem,
  oargs={spacing},
  margs={header1,text1,header2,text2},
  alias/first={header1,text1},
  alias/second={header2,text2},
}
```

`\EducationEntry` The `\EducationEntry{`⟨*data*⟩`}` is a proxy to the `\cventry` macro of komacv, specialized for education-related entries.

```
\NewMultilangCmd{\EducationEntry}{disablable,
  command=\cventry,
  oargs={spacing},
  margs={when,degree,institution,where,grade,details},
  defaults={details={}},
}
```

`\EmploymentEntry` The `\EmploymentEntry{`⟨*data*⟩`}` is a proxy to the `\cventry` macro of komacv, specialized for main work-related entries.

```
\NewMultilangCmd{\EmploymentEntry}{disablable,
  command=\cventry,
  oargs={spacing},
  margs={when,title,employer,where,@grade,description},
  defaults={@grade={}, description={}},
}
```

`\AchievementEntry` The `\AchievementEntry{`⟨*data*⟩`}` is a proxy to the `\cventry` macro of komacv, specialized for achievements.

```
\NewMultilangCmd{\AchievementEntry}{disablable,
  command=\cventry,
  oargs={spacing},
  margs={when,title,occasion,where,@grade,description},
  defaults={@grade={}, occasion={}, where={}, description={}},
}
```

`\EntryListItem` The `\EntryListItem{`⟨*data*⟩`}` is a proxy to the `\cvlistitem` macro of komacv.

```
\NewMultilangCmd{\EntryListItem}{disablable,
  command=\cvlistitem,
  oargs={spacing},
  margs={item},
}
```

`\EntryListDblItem` The `\EntryListDblItem{`⟨*data*⟩`}` is a proxy to the `\cvlistdoubleitem` macro of komacv.

```
\NewMultilangCmd{\EntryListDblItem}{disablable,
  command=\cvlistdoubleitem,
  oargs={spacing},
  margs={first,second},
  alias/both={first,second},
}
```

Change History

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