ConTEXt

title : ConTEXt User Module
subtitle : PocketDiary
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Introduction

It is already some time ago, that my brother Heinz asked me to prepare him a special page-arrangement scheme. This scheme is suitable to form a section with a single-sided printed sheet of paper. He wanted to use it for special kind of greeting-cards. By coincidence I detected an article by U. Ziegenhagen in de TEXnische Kommödie nr. 3/2010. This article deals with the preparation of a PocketMod, which is a personal organizer based on the mentioned arranging scheme. In the article there is also a link mentioned to an online version of the PocketMod. (http://www.pocketmod.com/). – After reading the article and visiting the web-site I got intrigued by the fact, that CONTEXT has built in arranging capabilities and due to the LUATEX engine it should be possible to build such a personal organizer in CONTEXT.

The result is contained in this module. I would like to thank Hans Hagen and Taco Hoekwater for the great LUATEX machinery and Wolfgang Schuster for supporting me in tackling the multi-lingual interface.

PocketDiary

Lua-file

All calculations for dates are performed with LUA functions. The functions are contained in `t-calendar.lua`

International interface

The PocketDiary is aware of different languages. The language to be used is selected with `\mainlanguage[en]`. The following interfaces are available

- Englisch interface
- Dutch interface
- German interface
- Italian interface
- French interface

PocketDiary

PocketDiary layout

This module uses different page templates, whereof one uses a symbol out of the set 2 of the Martin Vogel collection. So we load these symbols:

```
\usesymbols[mvs]
\setupsymbolset[martinvogel 2]
```

The document should start with the definition of the main language used, this is important if you use a different language than English. The placement of the pagenumber is switched off for the moment.

```
\mainlanguage[nl]
\setuppagenumbering[location=]
```

Because we will place 8 pages on an A4 landscape, we define our own pagesize

```
\definepapersize[Arrangingformat][width=7.42cm, height=10.5cm]
\setuppapersize[Arrangingformat][A4,landscape]
```

In the templates a light gray color for (grid)lines is used. Separator lines can have an individual color too. The color for the (grid)lines must later on be set inside the setups for the PocketDiary, otherwise the color is not adjusted to the required value! We enable the use of colors.

```
\definecolor[Grid][s=.75]
\definecolor[Separatorline][\getvariable{PocketDiaryColors}{Separatorline}]
\setupcolors[state=start]
```

The page of the PocketDiary has a fairly simple layout. We use a header- and a footer-space. The header has a rule beneath and the footer one on top.

```
\setuplayout
   [topspace=.6cm,
    backspace=.6cm,
    header=2\bodyfontsize,
    headerdistance=.5\bodyfontsize,
    footer=1.2\bodyfontsize,
    footerdistance=.5\bodyfontsize,
    margin=0pt,
    height=middle,
    width=middle]
\setupbackgrounds
   [header]
   [text]
   [state=start,
    frame=off,
    bottomframe=on,
    framecolor=\getvariable{PocketDiaryColors}{Separatorline}]
\setupbackgrounds
   [footer]
   [text]
   [state=start,
    frame=off,
    topframe=on,
    framecolor=\getvariable{PocketDiaryColors}{Separatorline}]
```

For the pages with (grid)lines we use a layer which will contain the graphic.

```
\definelayer[textarea][width=\textwidth,height=\textheight,preset=lefttop]
```

Implementation

METAPOST drawings

There are three templates which are made up in METAPOST. The code is made up in such a way, that the drawings are automatically adapted to the size of the typsetting area.

```
\startuniqueMPgraphic{Caro}
   numeric w; w:= floor(\overlaywidth/4mm);
   numeric h; h:= floor(\overlayheight/4mm);
   path p,q;
   p := unitsquare xscaled (4mm*w) yscaled (4mm*h);
   q:= ulcorner p -- llcorner p;
      for i = 0 upto w :
        draw q shifted (i*4mm,0) withpen pencircle scaled .5pt withcolor \MPcolor{Grid};
      endfor;
   q:= llcorner p -- lrcorner p;
   for i = 0 upto h :
      draw q  shifted (0,i*4mm) withpen pencircle scaled .5pt withcolor \MPcolor{Grid};
   endfor;
\stopuniqueMPgraphic

\startuniqueMPgraphic{Lines}
   numeric w; w:= \overlaywidth;
   numeric h; h:= floor(\overlayheight/7mm);
   path p,q;
   p := unitsquare xscaled \overlaywidth yscaled (7mm*h);
   q:= ulcorner p -- urcorner p;
   for i = 0 upto h :
      if i = 0:
        draw q  shifted (0,-i*7mm) withpen pencircle scaled .5pt withcolor white;
      else :
        draw q  shifted (0,-i*7mm) withpen pencircle scaled .5pt withcolor \MPcolor{Grid};
      fi;
   endfor;
\stopuniqueMPgraphic

\startuniqueMPgraphic{Todo}
   numeric w; w:= \overlaywidth;
   numeric h; h:= floor(\overlayheight/7.5mm);
   path p,q;
   p := unitsquare xscaled \overlaywidth yscaled \overlayheight;
   q:= llcorner p -- lrcorner p;
   for i = 0 upto h :
      draw q shifted (0,i*7mm)  withpen pencircle scaled .5pt withcolor \MPcolor{Grid};
      label.top(textext("\tfd \symbol[HollowBox]"), point 0 of q shifted (1mm,i*7mm));
   endfor;
\stopuniqueMPgraphic
```

PocketDiary

The set of macros for the calculations

The LUA functions run in a namespace assigned to this module. All calls to the LUA functions are prepended by `thirddata.wegger.calendar`. This prepending string is represented by ... in the following list of macros.

```
\def\Daytest{\getvariable{PocketDiary}{Day}}

\def\Monthtable#1#2{\ctxlua{...monthtableH(#1,#2)}}
\def\Monthname#1#2{\ctxlua{...monthname(#1,#2)}}
\def\Yearcalendar#1{\ctxlua{...endar(#1)}}
\def\Nxtwknrdetermination#1#2{\ctxlua{...nextweeknumberdetermination(#1,#2)}}

\def\ThisWeektable#1#2{\ctxlua{...thisweek(#1,#2)}}
\def\NextWeektable#1#2{\ctxlua{...nextweek(#1,#2)}}

\def\Daynameofweek#1#2#3{\ctxlua{...select_dayname(#1,#2,#3)}}
\def\Fulldateofweek#1#2#3{\ctxlua{...select_fulldate(#1,#2,#3)}}
\def\Dayofmonth#1#2#3{\ctxlua{...select_dayofmonth(#1,#2,#3)}}
\def\Monthofweek#1#2#3{\ctxlua{...select_month(#1,#2,#3)}}
\def\Monthnameofweek#1#2#3{\ctxlua{...select_monthname(#1,#2,#3)}}
\def\Fullyearofweek#1#2#3{\ctxlua{...select_fullyear(#1,#2,#3)}}
\def\Yearofweek#1#2#3{\ctxlua{...select_year(#1,#2,#3)}}
\def\Checkchristianfeast#1#2#3{\ctxlua{...checkchristianfeast(#1,#2,#3)}}
```

PocketDiary

The variable sets

The module uses five sets of variables. The first set contains the information on the calendars to be calculated. First of all it has to be stated, that the whole idea behind this module is to prepare a personal organizer with as few parameters as possible. After the initial setup of the variables it is sufficient to adapt the values in the first set only.

Variable set **PocketDiary**

Variable	Value	Comment
Year	number	Year numbers in the range 1900 and 4099. The lower limit is computerdependent (OS-timestamp), the upper limit is dependent on the Easter Sunday calculation (http://www.assa.org.au/edm.html, R.W. Mallen, 1985).
Week	number	Values between 1 and 53
Day	number	Values between 1 and 7. If this variable contains a value, then the PocketDiary will be made up aaccording to the variable specifications given in the PocketDiaryLayout section. If this variable is empty, then a PocketDiary with one page per day is made up. The content of pages 1 and 8 can be chosen in the section PocketDiaryLayout
Month	number	Values between 1 and 12
Nextyear	yes/no	The testing is done on 'yes'. If set to 'yes' the next year instead of the current year is used for the calculation of the year calendar.

```
\setvariables
  [PocketDiary]
  [Year=2011,
  Week=17,
  Day=7,
  Month=5,
  Nextyear=yes]
```

Variable set **PocketDiaryLayout**

The PocketDiary can be given a layout according to your own ideas. There are 8 variables (Page1 upto Page8) which can be given different values.

Variable	Comment
Day	The weekday indicated in the variable 'Day' in the previous section is used to make a PocketDiary page.
Week	A week calendar based on the variable 'Week' in the previous section is used for the presentation of a week table.
Monthcurrent	A monthtable based on the value in the variable 'Month' of the previous section is typeset.
Monthnext	A monthtable of the next month based on the value in the variable 'Month' of the previous section is typeset.
Yearcalendar	A complete year calendar is typset. If the 'Nextyear' variable is not 'yes', the year calendar for the year indicated in variable 'Year' of the previous section is used. Otherwise that variable is increased by 1 to typeset the year calendar.
Lost-Return	By means of the values in the variables of the section PocketDiaryAddress a lost and return page is composed.
Blank	This page carries a header and a footer but is empty for the rest.

Todo	A todo-list template is typeset.
Caro	A page with full-grid-paper is tyepset.
Lines	A page with grid lines is typeset.
Contact	A form with two sets of preprinted fields for marking down contact information is typset.

```
\setvariables
   [PocketDiaryLayout]
   [Page1=Lost-Return,
   Page2=Week,
   Page3=Day,
   Page4=Monthcurrent,
   Page5=Blank,
   Page6=Contact,
   Page7=Caro,
   Page8=Lines]
```

Variable set **PocketDiaryAddress**

The third section of variables contains information used for the footer and the lost-return form.

```
\setvariables
   [PocketDiaryAddress]
   [Familyname=Egger,
   Forename=Willi,
   Street=Townstreet 3B,
   Zipcode=5000,
   City=New CONTEXT,
   Country=TEX-world,
   Phone=+22 444 55 88 66,
   Mobile=+22 6 19 19 1717,
   E-mail=info at pocketdiary.org,
   Web=www.pocketdiary.org]
```

Variable set **PocketDiaryColors**

The PocketDiary uses some color. The header and footer separator lines can be given a color. Standard color is blue. For those who want gridlines other than light gray can set a color for the gridlines also.

```
\setvariables
   [PocketDiaryColors]
   [Separatorline=blue,
   Gridline={s=.75}]
```

Variable set **PocketDiaryFooter**

The footer is filled with three fields. These fields may contain the contents of variables or TEX commands. The setup of the footer is done with a setup in order to be able to call it later on.

```
\setvariables
   [PocketDiaryFooter]
```

```
   [Lefttext=PocketDiary,
    Centertext=\pagenumber,
    Righttext={\getvariable{PocketDiaryAddress}{Forename},~{\currentdate[year]}}]
```

Footer setup

```
\startsetups Footertext
   \setupfootertexts[%
      \tfx
      \getvariable{PocketDiaryFooter}{Lefttext}
      \hfill
      \getvariable{PocketDiaryFooter}{Centertext}
      \hfill
      \getvariable{PocketDiaryFooter}{Righttext}]
\stopsetups
```

PocketDiary

The various calendar pages

Day

The day calendar looks as in figure ??.

Weekend

The weekend calendar shows saturday and sunday on one page (see figure 2).

Week

The week calendar is a one-column table for working days. Saturday and sunday are placed next to each other in the last table row. An example is given in figure 3.

Month

The month calendar looks as in figure 4.

Year

The year calendar looks as in figure 5.

Templates

The PocketDiary comes with a couple of templates for writing down information:

Figure 2 Example Weekend-calendar

Figure 3 Example Week-calendar

May **2011**

Mon	Tue	Wed	Thu	Fri	Sat	Sun
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

PocketDiary Example page Willi,2011

Figure 4 Example Month-calendar

2011

January

	52	1	2	3	4	5
Mon		3	10	17	24	31
Tue		4	11	18	25	
Wed		5	12	19	26	
Thu		6	13	20	27	
Fri		7	14	21	28	
Sat	1	8	15	22	29	
Sun	2	9	16	23	30	

February

	5	6	7	8	9	
Mon		7	14	21	28	
Tue	1	8	15	22		
Wed	2	9	16	23		
Thu	3	10	17	24		
Fri	4	11	18	25		
Sat	5	12	19	26		
Sun	6	13	20	27		

March

	9	10	11	12	13	
Mon		7	14	21	28	
Tue	1	8	15	22	29	
Wed	2	9	16	23	30	
Thu	3	10	17	24	31	
Fri	4	11	18	25		
Sat	5	12	19	26		
Sun	6	13	20	27		

April

	13	14	15	16	17	
Mon		4	11	18	25	
Tue		5	12	19	26	
Wed		6	13	20	27	
Thu		7	14	21	28	
Fri	1	8	15	22	29	
Sat	2	9	16	23	30	
Sun	3	10	17	24		

May

	17	18	19	20	21	22
Mon		2	9	16	23	30
Tue		3	10	17	24	31
Wed		4	11	18	25	
Thu		5	12	19	26	
Fri		6	13	20	27	
Sat		7	14	21	28	
Sun	1	8	15	22	29	

June

	22	23	24	25	26	
Mon		6	13	20	27	
Tue		7	14	21	28	
Wed	1	8	15	22	29	
Thu	2	9	16	23	30	
Fri	3	10	17	24		
Sat	4	11	18	25		
Sun	5	12	19	26		

July

	26	27	28	29	30	
Mon		4	11	18	25	
Tue		5	12	19	26	
Wed		6	13	20	27	
Thu		7	14	21	28	
Fri	1	8	15	22	29	
Sat	2	9	16	23	30	
Sun	3	10	17	24	31	

August

	31	32	33	34	35	
Mon	1	8	15	22	29	
Tue	2	9	16	23	30	
Wed	3	10	17	24	31	
Thu	4	11	18	25		
Fri	5	12	19	26		
Sat	6	13	20	27		
Sun	7	14	21	28		

September

	35	36	37	38	39	
Mon		5	12	19	26	
Tue		6	13	20	27	
Wed		7	14	21	28	
Thu	1	8	15	22	29	
Fri	2	9	16	23	30	
Sat	3	10	17	24		
Sun	4	11	18	25		

October

	39	40	41	42	43	44	
Mon		3	10	17	24	31	
Tue		4	11	18	25		
Wed		5	12	19	26		
Thu		6	13	20	27		
Fri		7	14	21	28		
Sat	1	8	15	22	29		
Sun	2	9	16	23	30		

November

	44	45	46	47	48		
Mon		7	14	21	28		
Tue	1	8	15	22	29		
Wed	2	9	16	23	30		
Thu	3	10	17	24			
Fri	4	11	18	25			
Sat	5	12	19	26			
Sun	6	13	20	27			

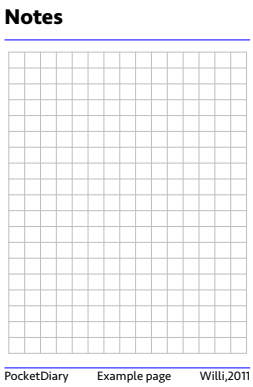
December

	48	49	50	51	52		
Mon		5	12	19	26		
Tue		6	13	20	27		
Wed		7	14	21	28		
Thu	1	8	15	22	29		
Fri	2	9	16	23	30		
Sat	3	10	17	24	31		
Sun	4	11	18	25			

PocketDiary Example page Willi,2011

Figure 5 Example Year-calendar

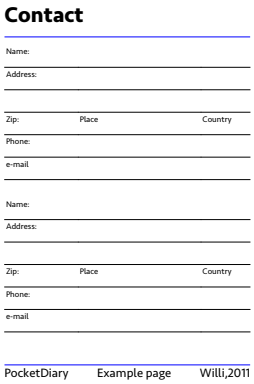
The blank page



Caro paper

Lines

Todo



Contact information

Figure 6 The set of available templates

The setup of the PocketDiary

```
\startsetups PocketDiary
\definecolor[Grid][\getvariable{PocketDiaryColors}{Gridline}]
\strut
\setups{Footertext}
\doifelse\Daytest\empty
  {\setvariables[PocketDiary][Day=1]
  \getbuffer[\getvariable{PocketDiaryLayout}{Page1}]
  \dorecurse
     {5}
     {\setupheadertexts
           [{\framed[align=flushleft,
           width=\textwidth,
           frame=off]
           {{\bfb\Dayofmonth%
              {\getvariable{PocketDiary}{Week}}
               {\getvariable{PocketDiary}{Year}}
               {\recurselevel}
            }
           ~{\bfa\Daynameofweek
              {\getvariable{PocketDiary}{Week}}
               {\getvariable{PocketDiary}{Year}}
               {\recurselevel}}}
           ~{\tfxx \Checkchristianfeast
              {\Dayofmonth
                 {\getvariable{PocketDiary}{Week}}
                 {\getvariable{PocketDiary}{Year}}
                 {\recurselevel}}
              {\Monthofweek
                 {\getvariable{PocketDiary}{Week}}
                 {\getvariable{PocketDiary}{Year}}
                 {\getvariable{PocketDiary}{Day}}}
               {\getvariable{PocketDiary}{Year}}}
           \hfill
           {\Monthnameofweek
              {\getvariable{PocketDiary}{Week}}
              {\getvariable{PocketDiary}{Year}}
              {1}}
            ~\Fullyearofweek
              {\getvariable{PocketDiary}{Week}}
               {\getvariable{PocketDiary}{Year}}
               {\recurselevel}
           }}]
       \strut\page
     }
  \getbuffer[Weekend]
     \getbuffer[\getvariable{PocketDiaryLayout}{Page8}]
  }
     {\getbuffer[\getvariable{PocketDiaryLayout}{Page1}]
  \getbuffer[\getvariable{PocketDiaryLayout}{Page2}]
  \getbuffer[\getvariable{PocketDiaryLayout}{Page3}]
  \getbuffer[\getvariable{PocketDiaryLayout}{Page4}]
  \getbuffer[\getvariable{PocketDiaryLayout}{Page5}]
```

```
    \getbuffer[\getvariable{PocketDiaryLayout}{Page6}]
    \getbuffer[\getvariable{PocketDiaryLayout}{Page7}]
    \getbuffer[\getvariable{PocketDiaryLayout}{Page8}]}
  \stopsetups
```

Arranging the pages

For the arrangement of the 8 pages on the paper we need a special arranging scheme, which is included in the distribution. Invoking the scheme is performed with

```
\setuparranging[1*8]
```

PocketDiary

How to fold the PocketDiary

The eight printed pages are folded in such a way, that the PocketDiary presents itself as a small booklet. There are no empty pages visible.

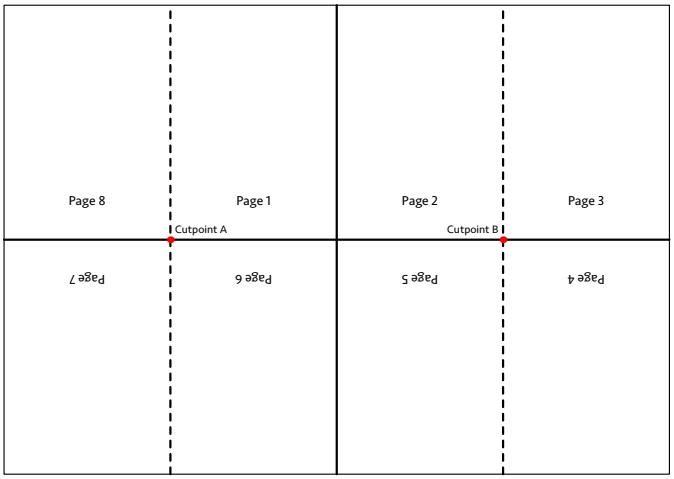


Figure 7 The basic folding scheme

First make two mountain-folds as indicated with the straight lines in figure 7. Unfold the paper and turn it face up and 90°to the left. Make a valley-fold with the lower part of the scheet on the previously made mountain-fold. Unfold and turn the sheet 180°. Make another valley-fold as described before. Unfold the sheet.

Take a sharp knife and a ruler. Slit the paper open between Cuttingpoint A and B (see figure 7).

Now we kan fold the booklet. First fold the paper again in the length. Then hold the double folded paper with the mountain-fold up. Push from both sides towards the center in order to get a form similar to figure 8. Fold then the upper double-page in direction B, the lower double-page in direction C and finally the lefthand double-sided page in direction D.

Before creasing the booklet at the spine it is worthwhile to put the section on table and adjust folds where needed. Finally the spine is creased with preference with a bone-folder.

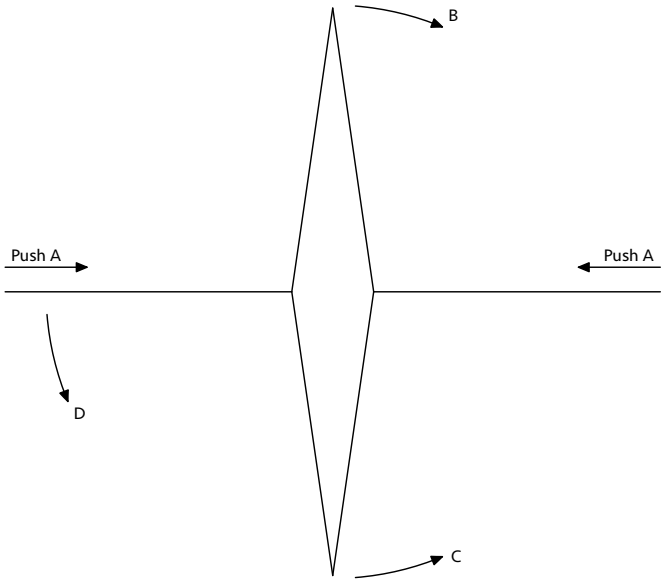


Figure 8 The basic folding scheme