

# **PDF-form creation using pdflatex, hyperref and insdljs**

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# 1 Introduction

## 1.1 Copyright

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## 1.2 Purpose of this tutorial

This tutorial shows how to create PDF forms using pdfL<sup>A</sup>T<sub>E</sub>X, hyperref and insdljs. The focus is set on forms which are filled interactively on screen and printed.

You need a L<sup>A</sup>T<sub>E</sub>X distribution, pdflatex, hyperref and insdljs must be installed. The insdljs package is a part of the AcroTeX Education Bundle, see <http://www.acrotex.net>.

You should have the following additional documentation available:

- the hyperref manual: [RO04],
- guides, specifications and references for Acrobat JavaScript: [Sup03], [ADS05a] and [ADS05b] and
- the PDF file format reference: [ASI01].

This tutorial shows three examples, the first one is developed step-by-step. The final versions of the forms are “ex0011”, “ex0101” and “ex0201”.

## 2 hyperref and PDF forms

The hyperref package provides environments and macros to create forms. The form elements must be placed in a `Form` environment, `Form` environments are limited to one `Form` environment per document. The following macros can be used to create form elements:

- `\TextField[Parameter]{Text}`  
creates a text field.
- `\CheckBox[Parameter]{Text}`  
creates a check box.
- `\ChoiceMenu[Parameter]{Text}{Auswahl-Optionen}`  
creates a choice list.
- `\PushButton[Parameter]{Text}`  
creates a button.
- `\Submit[Parameter]{Text}`  
creates a Submit-Button. Pushing the button sends form data to the URL specified as action-parameter in the `Form` environment.
- `\Reset[Parameter]{Text}`  
creates a Reset-button.

The hyperref documentation [[R004](#)] provides a more detailed description of the `Form` environment and the macros above.

## 3 Before we start

### 3.1 Document preamble

#### 3.1.1 Document class

The usual document classes – i. e. `scrartcl` or `article` – can be used to create forms.

#### 3.1.2 Fonts

The PDF standard requires each PDF viewer to render 14 fonts even if the font is not embedded into the PDF file, especially the font families Times, Helvetica and Courier. JavaScript code can be used to change form field fonts to these fonts. We want to use JavaScript to change fonts, so we load the font setup packages using

```
1 \usepackage { mathptmx }
2 \usepackage [ scaled = .92 ] { helvet }
3 \usepackage { courier }
```

Additionally we use

```
1 \usepackage [ T1 ] { fontenc }
```

to change the font encoding from OT1 ( $\LaTeX$  default) to T1.

The default family is switched to Helvetica using

```
1 \renewcommand * { \familydefault } { \phv }
```

because sans-serif fonts are better readable on screen than serified fonts.

#### 3.1.3 Page layout

The page margins are set up by:

```
1 \usepackage [ left = 25mm, top = 25mm, bottom = 10mm, right = 10mm ] { geometry }
```

Page header and footer are set up by:

```
1 \usepackage { fancyhdr }
2 \lhead { Firma ABC } \chead { } \rhead { Abteilung XYZ }
3 \lfoot { } \cfoot { } \rfoot { }
4 \pagestyle { fancy }
```

#### 3.1.4 Graphics and colors

The packages

```
1 \usepackage { graphicx }
2 \usepackage { color }
```

can be used to add graphics (i. e. logos) and colors.

### 3.1.5 hyperref-package

The hyperref package is used:

```
1 \usepackage [  
2   pdftex , a4paper=true , colorlinks=true ,  
3   pdftitle={Key form} ,  
4   pdfsubject={Key} ,  
5   pdfauthor={Front of House Manager} ,  
6   pdfpagemode=UseNone , pdfstartview=FitH , pdfhighlight={/N}  
7 ]{hyperref}
```

## 3.2 Form element attributes

I recommend to set form elements colors and fonts as shown in table 1.

Table 1: Form element colors and fonts

	<b>Border color</b>	<b>Fill color</b>	<b>Font weight</b>
Screen	colored	colored	bold
Printout	black	white	regular
Screen and Printout <sup>1</sup>	colored	white	regular

All form elements should be marked fully colored when shown on screen so users can find all elements easily. For readability we choose a bold font to show text on a colored background.

Printouts of forms are typically done on black-and-white printers. On printout we want a black border and white filling for form elements. The text is black on white now, so we do not need a bold font.

JavaScript must be enabled in the PDF viewer to change colors and fonts before and after printing the document.

The color for marking form elements should be the same color for all elements. We want to show black text on color-filled areas, so we should use a light color for a good contrast.

---

<sup>1</sup>if JavaScript is deactivated



## 4 The first form

### 4.1 Goal

We want to design a form which can be used to request keys for new employees. The following data is needed:

- First name and name,
- Department,
- Employment time (unlimited or limited from ... until ...),
- the doors to open.

Text fields are used for first name and name. Department and employment time are chosen from a list. The doors are selected in check boxes.

### 4.2 First attempt: ex0001

The ex0001.tex file shows a first attempt to create the form.

```
1 \documentclass [ngerman , a4paper ]{ scrartcl }
2 \usepackage [ latin1 ]{ inputenc }
3 \usepackage [T1]{ fontenc }
4 \usepackage { textcomp }
5 \usepackage { mathptmx }
6 \usepackage [ scaled =.92]{ helvet }
7 \usepackage { courier }
8 \renewcommand * { \familydefault }{ phv }
9 \usepackage [ left =25mm, top =25mm, bottom =10mm, right =10mm]{ geometry }
10 \usepackage { fancyhdr }
11 \lhead {ABC, Inc . } \chead {} \rhead {XYZ Dept . }
12 \lfoot {} \cfoot {} \rfoot {}
13 \pagestyle { fancy }
14 \usepackage { graphicx }
15 \usepackage { color }
16 \usepackage [
17   pdftex , a4paper=true , colorlinks=true ,
18   pdftitle={Key form } , pdfsubject={Key } ,
19   pdfauthor={ich } , pdfpagemode=UseNone , pdfstartview=FitH ,
20   pagebackref , pdfhighlight={/N}
21 ]{ hyperref }
22 \begin { document }
23 \section *{ Request for a key }
24 \begin { Form }
```

```

25 \textbf{Employee}\
26 First name: \TextField[name=vorname]{}
27 Name: \TextField[name=name]{}
28 Department: \ChoiceMenu[name=abt]{}{Sales=v, Production=f, Service=s}
29 \textbf{Time}\
30 Time: \ChoiceMenu[name=zeit]{}{limited=b, unlimited=u}
31 from: \TextField[name=from]{}
32 until: \TextField[name=until]{}
33 \textbf{Doors}\
34 Front door: \CheckBox[name=ht]{}
35 Ground floor: \CheckBox[name=e1]{}
36 First floor: \CheckBox[name=e2]{}
37 \end{Form}
38 \end{document}

```

After running

```
1 pdflatex ex0001 && pdflatex ex0001
```

we can open ex0001.pdf in the PDF viewer.

The form does not look good but contains the required functionality.

The source shows:

- A unique name (identifier) is assigned to each form element using the *name* parameter.
- The last argument of the `\ChoiceMenu[]{}{}` macro is a list containing the available choices. Each list entry contains the full text to show and an abbreviation, separated by “=”.

### 4.3 Aligning elements in a table: ex0002

We use a *tabular* environment to align the form elements in a table.

```
1 \documentclass[ngerman,a4paper]{scrartcl}
2 \usepackage[latin1]{inputenc}
3 \usepackage[T1]{fontenc}
4 \usepackage{textcomp}
5 \usepackage{mathptmx}
6 \usepackage[scaled=.92]{helvet}
7 \usepackage{courier}
8 \renewcommand*{\familydefault}{phv}
9 \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}
10 \usepackage{fancyhdr}
11 \lhead{ABC, Inc.}\chead{}\rhead{XYZ Dept.}
12 \lfoot{}\cfoot{}\rfoot{}
13 \pagestyle{fancy}
14 \usepackage{graphicx}
15 \usepackage{color}
16 \usepackage[
17   pdftex,a4paper=true,colorlinks=true,
18   pdftitle={Key form},pdfsubject={Key},
19   pdfauthor={ich},pdfpagemode=UseNone,pdfstartview=FitH,
20   pagebackref,pdfhighlight={/N}
21 ]{hyperref}
22 \begin{document}
23 \section*{Request for a key}
24 \begin{Form}
25 \begin{tabular}{|r|}
26 \hline
27 & \multicolumn{2}{|c|}{\textbf{Employee}} \\
28 First name:& \\
29 \TextField[name=vorname]{} \\
30 Name:& \\
31 \TextField[name=name]{} \\
32 Department:& \\
33 \ChoiceMenu[name=abt]{}{ \\
34 Sales=v,Production=f,Service=s} \\
35 \hline
36 & \multicolumn{2}{|c|}{\textbf{Time}} \\
37 Time:& \\
38 \ChoiceMenu[name=zeit]{}{ \\
39 limited=b,unlimited=u} \\
40 from:& \\
41 \TextField[name=from]{} \\
```

```

42 until:&%
43 \TextField[name=until]{}\\
44 \hrline
45 &\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Doors}}\\
46 Front door:&%
47 \CheckBox[name=ht,width=1.2em]{}\\
48 Ground floor:&%
49 \CheckBox[name=e1,width=1.2em]{}\\
50 First floor:&%
51 \CheckBox[name=e2,width=1.2em]{}\\
52 \hrline
53 \end{tabular}
54 \end{Form}
55 \end{document}

```

## 4.4 Spaces and element widths: ex0003

We use

```
1 &&\*[-0.9em]
```

to add vertical space between the table lines. In the last table line we use

```
1 &&\*
```

In the *ChoiceMenu* we set the “popdown=true” parameter to establish popdown-behaviour. The parameter “width=20em” parameter sets the horizontal size.

```
1 \documentclass[ngerman,a4paper]{scrartcl}
2 \usepackage[latin1]{inputenc}
3 \usepackage[T1]{fontenc}
4 \usepackage{textcomp}
5 \usepackage{mathptmx}
6 \usepackage[scaled=.92]{helvet}
7 \usepackage{courier}
8 \renewcommand*{\familydefault}{phv}
9 \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}
10 \usepackage{fancyhdr}
11 \lhead{ABC, Inc.}\chead{}\rhead{XYZ Dept.}
12 \lfoot{}\cfoot{}\rfoot{}
13 \pagestyle{fancy}
14 \usepackage{graphicx}
15 \usepackage{color}
16 \usepackage[
17   pdftex,a4paper=true,colorlinks=true,
18   pdftitle={Key form},pdfsubject={Key},
19   pdfauthor={ich},pdfpagemode=UseNone,pdfstartview=FitH,
20   pagebackref,pdfhighlight={/N}
21 ]{hyperref}
22 \begin{document}
23 \section*{Request for a key}
24 \begin{Form}
25 \begin{tabular}{|r|l|}
26 \hline
27 &\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Employee}}\ \\
28 &\*[-0.9em]First name:&%
29 \TextField[name=vorname,width=20em]{} \\
30 &\*[-0.9em]Name:&%
31 \TextField[name=name,width=20em]{} \\
32 &\*[-0.9em]Department:&%
33 \ChoiceMenu[{}={},name=abt,width=20em,popdown=true]{}{ %
34 Sales=v,Production=f,Service=s}\ \\
```

```

35 &\*[-0.9em]\hline
36 &\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Time}}\
37 &\*[-0.9em]Time:&%
38 \ChoiceMenu[name=zeit,width=20em,popdown=true]{\%
39 limited=b,unlimited=u}\
40 &\*[-0.9em]from:&%
41 \TextField[name=from,width=10em]{}\
42 &\*[-0.9em]until:&%
43 \TextField[name=until,width=10em]{}\
44 &\*[-0.9em]\hline
45 &\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Doors}}\
46 &\*[-0.9em]Front door:&%
47 \CheckBox[name=ht,width=1.2em]{}\
48 &\*[-0.9em]Ground floor:&%
49 \CheckBox[name=e1,width=1.2em]{}\
50 &\*[-0.9em]First floor:&%
51 \CheckBox[name=e2,width=1.2em]{}\
52 &\
53 \hline
54 \end{tabular}
55 \end{Form}
56 \end{document}

```

## 4.5 Label text position: ex0004

The y-position of form element texts and label texts differ because the form elements have an inner and outer border.

We use text fields to show the labels and make the borders invisible. So label text and form element text is at the same y-position now.

We create a white border for the labels

```
1 bordercolor={1 1 1}
   and set text alignment to right-aligned:
1 align=2

1 \documentclass[ngerman,a4paper]{scrartcl}
2 \usepackage[latin1]{inputenc}
3 \usepackage[T1]{fontenc}
4 \usepackage{textcomp}
5 \usepackage{mathptmx}
6 \usepackage[scaled=.92]{helvet}
7 \usepackage{courier}
8 \renewcommand*{\familydefault}{phv}
9 \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}
10 \usepackage{fancyhdr}
11 \lhead{ABC, Inc.}\chead{}\rhead{XYZ Dept.}
12 \lfoot{}\cfoot{}\rfoot{}
13 \pagestyle{fancy}
14 \usepackage{graphicx}
15 \usepackage{color}
16 \usepackage[
17   pdftex,a4paper=true,colorlinks=true,
18   pdftitle={Key form},pdfsubject={Key},
19   pdfauthor={ich},pdfpagemode=UseNone,pdfstartview=FitH,
20   pagebackref,pdfhighlight={/N}
21 ]{hyperref}
22 \newcommand{\textforlabel}[2]{%
23 \TextField[name={#1},value={#2},width=7em,%
24 align=2,bordercolor={1 1 1},readonly=true]}%
25 }
26 \begin{document}
27 \section*{Request for a key}
28 \begin{Form}
29 \begin{tabular}{|r|l|}
30 \hline
31 & \textbf{Employee} \\
32 & \textforlabel{vn}{First name:}&\end{tabular}
```

```

33 \TextField[name=vorname , width=20em]{}\\
34 &\\*[-0.9em]\textforlabel{nn}{Name:}&%
35 \TextField[name=name , width=20em]{}\\
36 &\\*[-0.9em]\textforlabel{ab}{Department:}&%
37 \ChoiceMenu[name=abt , width=20em, popdown=true , value=v]{}{ %
38 Sales=v , Production=f , Service=s }\\
39 &\\*[-0.9em]\hrline
40 &\\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Time}}\\
41 &\\*[-0.9em]\textforlabel{z}{Time:}&%
42 \ChoiceMenu[name=zeit , width=20em, popdown=true , value=u]{}{ %
43 unlimited=u , limited=b }\\
44 &\\*[-0.9em]\textforlabel{v}{from:}&%
45 \TextField[name=from , width=10em]{}\\
46 &\\*[-0.9em]\textforlabel{b}{until:}&%
47 \TextField[name=until , width=10em]{}\\
48 &\\*[-0.9em]\hrline
49 &\\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Doors}}\\
50 &\\*[-0.9em]\textforlabel{th}{Front door:}&%
51 \CheckBox[name=ht , width=1.2em]{}\\
52 &\\*[-0.9em]\textforlabel{t1}{Ground floor:}&%
53 \CheckBox[name=e1 , width=1.2em]{}\\
54 &\\*[-0.9em]\textforlabel{t2}{First floor:}&%
55 \CheckBox[name=e2 , width=1.2em]{}\\
56 &\\
57 \hrline
58 \end{tabular}
59 \end{Form}
60 \end{document}

```



## 4.6 Colors: ex0005

We use

```
1 bordercolor={0.65 0.79 0.94}
```

to change the border color to light blue for the form elements.

```
1 \documentclass[ngerman,a4paper]{scrartcl}
2 \usepackage[latin1]{inputenc}
3 \usepackage[T1]{fontenc}
4 \usepackage{textcomp}
5 \usepackage{mathptmx}
6 \usepackage[scaled=.92]{helvet}
7 \usepackage{courier}
8 \renewcommand*{\familydefault}{phv}
9 \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}
10 \usepackage{fancyhdr}
11 \lhead{ABC, Inc.}\chead{}\rhead{XYZ Dept.}
12 \lfoot{}\cfoot{}\rfoot{}
13 \pagestyle{fancy}
14 \usepackage{graphicx}
15 \usepackage{color}
16 \usepackage[
17   pdftex,a4paper=true,colorlinks=true,
18   pdftitle={Key form},pdfsubject={Key},
19   pdfauthor={ich},
20   pdfpagemode=UseNone,pdfstartview=FitH,pagebackref,pdfhighlight={/N}
21 ]{hyperref}
22 \newcommand{\textforlabel}[2]{%
23 \TextField[name={#1},value={#2},width=7em,align=2,%
24 bordercolor={1 1 1},readonly=true]{}%
25 }
26 \begin{document}
27 \section*{Request for a key}
28 \begin{Form}
29 \begin{tabular}{|r|l|}
30 \hline
31 & \textbf{Employee} \\
32 & \textforlabel{vn}{First name:}& \\
33 \TextField[name=vorname,width=20em,%
34 bordercolor={0.65 0.79 0.94}]{} \\
35 & \textforlabel{nn}{Name:}& \\
36 \TextField[name=name,width=20em,%
37 bordercolor={0.65 0.79 0.94}]{} \\
38 & \textforlabel{ab}{Department:}& \end{tabular}
\end{Form}
\end{document}
```

```

39 \ChoiceMenu[name=abt , width=20em, popdown=true , value=v,%
40 bordercolor={0.65 0.79 0.94}]{ }{ %
41 Sales=v , Production=f , Service=s }\\
42 &\\*[-0.9em]\hline
43 &\\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Time}}\\
44 &\\*[-0.9em]\textforlabel{z}{Time:}&%
45 \ChoiceMenu[name=zeit , width=20em, popdown=true , value=u,%
46 bordercolor={0.65 0.79 0.94}]{ }{ %
47 unlimited=u , limited=b }\\
48 &\\*[-0.9em]\textforlabel{v}{from:}&%
49 \TextField[name=from , width=10em,%
50 bordercolor={0.65 0.79 0.94}]{ }\\
51 &\\*[-0.9em]\textforlabel{b}{until:}&%
52 \TextField[name=until , width=10em,%
53 bordercolor={0.65 0.79 0.94}]{ }\\
54 &\\*[-0.9em]\hline
55 &\\*[-0.9em]\multicolumn{2}{|c|}{ %
56 \textbf{Doors}}\\
57 &\\*[-0.9em]\textforlabel{th}{Front door:}&%
58 \CheckBox[name=ht , width=1.2em,%
59 bordercolor={0.65 0.79 0.94}]{ }\\
60 &\\*[-0.9em]\textforlabel{t1}{Ground floor:}&%
61 \CheckBox[name=e1 , width=1.2em,%
62 bordercolor={0.65 0.79 0.94}]{ }\\
63 &\\*[-0.9em]\textforlabel{t2}{First floor:}&%
64 \CheckBox[name=e2 , width=1.2em,%
65 bordercolor={0.65 0.79 0.94}]{ }\\
66 &\\
67 \hline
68 \end{tabular}
69 \end{Form}
70 \end{document}

```

## 4.7 JavaScript: ex0006

The `insdljs` package is used to add document level JavaScript. The package requires to specify the output driver.

```
1 \usepackage [ pdftex ] { insdljs }
```

The JavaScript-code to add is placed in an *insDLJS* environment. The optional argument and the first required argument must be L<sup>A</sup>T<sub>E</sub>X identifiers (use a string containing characters only, no numbers). The second required argument is a comment

```
1 \begin { insDLJS } [ exaaaa ] { exaaaa } { Document Level JavaScript }
2 // ... Place Java source code here ...
3 \end { insDLJS }
```

The identifier is used to build a file name (“exaaaa.djs”) to temporarily store the packed JavaScript code.

The *OpenAction{}* macro specifies a function which is executed when the document is opened.

```
1 \OpenAction { /S /JavaScript /JS ( myFirstJavaScriptFunction ( ); ) }
```

The JavaScript-code is enclosed in brackets. The example code contains a function invocation.

The function may be invoked multiple times (each time one navigates to page 1). We use a variable as a flag indicating whether the function is run for the first time or not.

```
1 \documentclass [ ngerman , a4paper ] { scrartcl }
2 \usepackage [ latin1 ] { inputenc }
3 \usepackage [ T1 ] { fontenc }
4 \usepackage { textcomp }
5 \usepackage { mathptmx }
6 \usepackage [ scaled = .92 ] { helvet }
7 \usepackage { courier }
8 \renewcommand * { \familydefault } { phv }
9 \usepackage [ left = 25mm , top = 25mm , bottom = 10mm , right = 10mm ] { geometry }
10 \usepackage { fancyhdr }
11 \lhead { ABC , Inc . } \chead { } \rhead { XYZ Dept . }
12 \lfoot { } \cfoot { } \rfoot { }
13 \pagestyle { fancy }
14 \usepackage { graphicx }
15 \usepackage { color }
16 \usepackage [
17   pdftex , a4paper = true , colorlinks = true ,
18   pdftitle = { Key form } , pdfsubject = { Key } ,
19   pdfauthor = { ich } ,
20   pdfpagemode = UseNone , pdfstartview = FitH ,
21   pagebackref , pdfhighlight = { /N }
22 ] { hyperref }
```

```

23 \usepackage[ pdftex ]{ insdljs }
24 \begin{insDLJS}[ exaaaa ]{ exaaaa }{ Document Level JavaScript }
25
26 // indicate that the function was not yet run
27 var done = 0;
28
29 // function to run when opening the document
30 function myFirstJavaScriptFunction ()
31 {
32     if (!done) {
33         done = 1;
34         app.alert("The form was opened.");
35     }
36 }
37 \end{insDLJS}
38 \OpenAction{/S /JavaScript /JS (myFirstJavaScriptFunction();)}
39 \newcommand{\textforlabel}[2]{%
40 \TextField[name={#1},value={#2},width=7em,align=2,%
41 bordercolor={1 1 1},readonly=true]{}%
42 }
43 \begin{document}
44 \section*{Request for a key}
45 \begin{Form}
46 \begin{tabular}{|r|}
47 \hline
48 & \multicolumn{2}{|c|}{\textbf{Employee}} \\
49 & \textforlabel{vn}{First name:}& \\
50 \TextField[name=vorname,width=20em,%
51 bordercolor={0.65 0.79 0.94}]{} \\
52 & \textforlabel{nn}{Name:}& \\
53 \TextField[name=name,width=20em,%
54 bordercolor={0.65 0.79 0.94}]{} \\
55 & \textforlabel{ab}{Department:}& \\
56 \ChoiceMenu[name=abt,width=20em,popdown=true,value=v,%
57 bordercolor={0.65 0.79 0.94}]{} \\
58 Sales=v,Production=f,Service=s \\
59 & \hline
60 & \multicolumn{2}{|c|}{\textbf{Time}} \\
61 & \textforlabel{z}{Time:}& \\
62 \ChoiceMenu[name=zeit,width=20em,popdown=true,value=u,%
63 bordercolor={0.65 0.79 0.94}]{} \\
64 unlimited=u,limited=b \\
65 & \textforlabel{v}{from:}& \\
66 \TextField[name=from,width=10em,%

```

```

67 bordercolor={0.65 0.79 0.94}}{\}
68 &\[*[-0.9em]\textforlabel{b}{until:}&%
69 \TextField[name=until,width=10em,%
70 bordercolor={0.65 0.79 0.94}}{\}
71 &\[*[-0.9em]\hline
72 &\[*[-0.9em]\multicolumn{2}{|c|}{\textbf{%
73 Doors}}\}
74 &\[*[-0.9em]\textforlabel{th}{Front door:}&%
75 \CheckBox[name=ht,width=1.2em,%
76 bordercolor={0.65 0.79 0.94}}{\}
77 &\[*[-0.9em]\textforlabel{t1}{Ground floor:}&%
78 \CheckBox[name=e1,width=1.2em,%
79 bordercolor={0.65 0.79 0.94}}{\}
80 &\[*[-0.9em]\textforlabel{t2}{First floor:}&%
81 \CheckBox[name=e2,width=1.2em,%
82 bordercolor={0.65 0.79 0.94}}{\}
83 &\
84 \hline
85 \end{tabular}
86 \end{Form}
87 \end{document}

```

A message box is shown when the document is opened. In the german version the character ö is malformed to “o” because the inputenc package replaces german umlauts (and other characters) by the corresponding L<sup>A</sup>T<sub>E</sub>X code sequence. There are two ways to solve the problem:

- Remove the inputenc package and convert german umlauts to their L<sup>A</sup>T<sub>E</sub>X code sequence manually (shown in the listing below at the end of this section) or
- use JavaScript-Unicode notation for umlauts in JavaScript instead of typing the umlauts directly (shown in section 7 on page 54).

```

1 \usepackage[latin1]{inputenc}
   from our source.
1 \documentclass[ngerman,a4paper]{scrartcl}
2 \usepackage[T1]{fontenc}
3 \usepackage{textcomp}
4 \usepackage{mathptmx}
5 \usepackage[scaled=.92]{helvet}
6 \usepackage{courier}
7 \renewcommand*{\familydefault}{phv}
8 \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}
9 \usepackage{fancyhdr}
10 \lhead{ABC, Inc.}\chead{\}\rhead{XYZ Dept.}

```

```

11 \lfoot {} \cfoot {} \rfoot {}
12 \pagestyle { fancy }
13 \usepackage { graphicx }
14 \usepackage { color }
15 \usepackage [
16     pdftex , a4paper=true , colorlinks=true ,
17     pdftitle={Key form} , pdfsubject={Key} ,
18     pdfauthor={ich} ,
19     pdfpagemode=UseNone , pdfstartview=FitH ,
20     pagebackref , pdfhighlight={/N}
21 ] { hyperref }
22 \usepackage [ pdftex ] { insdljs }
23 \begin { insDLJS } [ exaaab ] { exaaab } { Document Level JavaScript }
24
25 // indicate that the function was not yet run
26 var done = 0;
27
28 // function to run when opening the document
29 function myFirstJavaScriptFunction ()
30 {
31     if (!done) {
32         done = 1;
33         app.alert ("The form was opened.");
34     }
35 }
36 \end { insDLJS }
37 \OpenAction { /S /JavaScript /JS ( myFirstJavaScriptFunction (); ) }
38 \newcommand { \textforlabel } [ 2 ] { %
39 \TextField [ name={#1} , value={#2} , width=7em , align=2 , %
40 bordercolor={1 1 1} , readonly=true ] { } %
41 }
42 \begin { document }
43 \section * { Request for a key }
44 \begin { Form }
45 \begin { tabular } { | r | l }
46 \hline
47 & \[* [ -0.9em ] \multicolumn { 2 } { | c | } { \textbf { Employee } } \\\
48 & \[* [ -0.9em ] \textforlabel { vn } { First name: } & %
49 \TextField [ name=vorname , width=20em , %
50 bordercolor={0.65 0.79 0.94} ] { } \\\
51 & \[* [ -0.9em ] \textforlabel { nn } { Name: } & %
52 \TextField [ name=name , width=20em , %
53 bordercolor={0.65 0.79 0.94} ] { } \\\
54 & \[* [ -0.9em ] \textforlabel { ab } { Department: } & %

```

```

55 \ChoiceMenu[name=abt , width=20em, popdown=true , value=v,%
56 bordercolor={0.65 0.79 0.94}]{ }{ %
57 Sales=v , Production=f , Service=s }\\
58 &\\*[-0.9em]\hline
59 &\\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Time}}\\
60 &\\*[-0.9em]\textforlabel{z}{Time:}&%
61 \ChoiceMenu[name=zeit , width=20em, popdown=true , value=u,%
62 bordercolor={0.65 0.79 0.94}]{ }{ %
63 unlimited=u , limited=b }\\
64 &\\*[-0.9em]\textforlabel{v}{from:}&%
65 \TextField[name=from , width=10em,%
66 bordercolor={0.65 0.79 0.94}]{ }\\
67 &\\*[-0.9em]\textforlabel{b}{until:}&%
68 \TextField[name=until , width=10em,%
69 bordercolor={0.65 0.79 0.94}]{ }\\
70 &\\*[-0.9em]\hline
71 &\\*[-0.9em]\multicolumn{2}{|c|}{ %
72 \textbf{Doors}}\\
73 &\\*[-0.9em]\textforlabel{th}{Front door:}&%
74 \CheckBox[name=ht , width=1.2em,%
75 bordercolor={0.65 0.79 0.94}]{ }\\
76 &\\*[-0.9em]\textforlabel{t1}{Ground floor:}&%
77 \CheckBox[name=e1 , width=1.2em,%
78 bordercolor={0.65 0.79 0.94}]{ }\\
79 &\\*[-0.9em]\textforlabel{t2}{First floor:}&%
80 \CheckBox[name=e2 , width=1.2em,%
81 bordercolor={0.65 0.79 0.94}]{ }\\
82 &\\
83 \hline
84 \end{tabular}
85 \end{Form}
86 \end{document}

```

## 4.8 Document events: ex0008 and ex0009

To process document events we have to add an /AA entry to the PDF catalogue. The entry value must be a dictionary defining event handlers. Entries in this dictionary are key/value pairs, the value is again a dictionary specifying the action to take.

The following keys can occur:

Key	Event
/WP	The document will be printed.
/DP	The document was printed.
/WS	The document will be saved.
/DS	The document was saved.
/DC	The document will be closed.

In the example we run *willPrint()*; for the WillPrint event and *didPrint()*; for the DidPrint event.

```
1 \immediate\pdfobj {
2 <<
3   /WP << /S /JavaScript /JS ( willPrint (); ) >>
4   /DP << /S /JavaScript /JS ( didPrint (); ) >>
5 >>
6 }
7 \pdfcatalog {/AA \the\pdfobj\space 0 R}
```

Before and after printing ex0008.pdf a message box is shown.

```
1 \documentclass [ngerman , a4paper ] { scrartcl }
2 \usepackage [T1] { fontenc }
3 \usepackage { textcomp }
4 \usepackage { mathptmx }
5 \usepackage [ scaled = .92 ] { helvet }
6 \usepackage { courier }
7 \renewcommand * { \familydefault } { phv }
8 \usepackage [ left = 25mm , top = 25mm , bottom = 10mm , right = 10mm ] { geometry }
9 \usepackage { fancyhdr }
10 \lhead { ABC , Inc . } \chead { } \rhead { XYZ Dept . }
11 \lfoot { } \cfoot { } \rfoot { }
12 \pagestyle { fancy }
13 \usepackage { graphicx }
14 \usepackage { color }
15 \usepackage [
16   pdftex , a4paper = true , colorlinks = true ,
17   pdftitle = { Key form } , pdfsubject = { Key } ,
18   pdfauthor = { ich } ,
19   pdfpagemode = UseNone , pdfstartview = FitH ,
```



```

20 pagebackref , pdfhighlight={/N}
21 ]{ hyperref }
22 \usepackage[ pdftex ]{ insdljs }
23 \immediate\pdfobj {
24 <<
25 /WP << /S /JavaScript /JS ( willPrint ();) >>
26 /DP << /S /JavaScript /JS ( didPrint ();) >>
27 >>
28 }
29 \pdfcatalog{/AA \the\pdflastobj\space 0 R}
30 \begin{insDLJS}[exaaac]{exaaac}{Document Level JavaScript}
31
32 // indicate that the function was not yet run
33 var done = 0;
34
35 function willPrint()
36 {
37 app.alert("The document will be printed.");
38 }
39
40 function didPrint()
41 {
42 app.alert("The document was printed.");
43 }
44
45 // function to run when opening the document
46 function myFirstJavaScriptFunction()
47 {
48 if(!done) {
49 done = 1;
50 app.alert("The form was opened.");
51 }
52 }
53 \end{insDLJS}
54 \OpenAction{/S /JavaScript /JS (myFirstJavaScriptFunction();)}
55 \newcommand{\textforlabel}[2]{%
56 \TextField[name={#1},value={#2},width=7em,align=2,%
57 bordercolor={1 1 1},readonly=true]}%
58 }
59 \begin{document}
60 \section*{Request for a key}
61 \begin{Form}
62 \begin{tabular}{|r|l|}
63 \hline

```

```

64 &\[*[-0.9em]\multicolumn{2}{|c|}{\textbf{Employee}}\}
65 &\[*[-0.9em]\textforlabel{vn}{First name:}&%
66 \TextField[name=vorname,width=20em,%
67 bordercolor={0.65 0.79 0.94}]{ }
68 &\[*[-0.9em]\textforlabel{nn}{Name:}&%
69 \TextField[name=name,width=20em,%
70 bordercolor={0.65 0.79 0.94}]{ }
71 &\[*[-0.9em]\textforlabel{ab}{Department:}&%
72 \ChoiceMenu[name=abt,width=20em,popdown=true,value=v,%
73 bordercolor={0.65 0.79 0.94}]{ }{ %
74 Sales=v,Production=f,Service=s}\}
75 &\[*[-0.9em]\hrline
76 &\[*[-0.9em]\multicolumn{2}{|c|}{\textbf{Time}}\}
77 &\[*[-0.9em]\textforlabel{z}{Time:}&%
78 \ChoiceMenu[name=zeit,width=20em,popdown=true,value=u,%
79 bordercolor={0.65 0.79 0.94}]{ }{ %
80 unlimited=u,limited=b}\}
81 &\[*[-0.9em]\textforlabel{v}{from:}&%
82 \TextField[name=from,width=10em,%
83 bordercolor={0.65 0.79 0.94}]{ }
84 &\[*[-0.9em]\textforlabel{b}{until:}&%
85 \TextField[name=until,width=10em,%
86 bordercolor={0.65 0.79 0.94}]{ }
87 &\[*[-0.9em]\hrline
88 &\[*[-0.9em]\multicolumn{2}{|c|}{%
89 \textbf{Doors}}\}
90 &\[*[-0.9em]\textforlabel{th}{Front door:}&%
91 \CheckBox[name=ht,width=1.2em,%
92 bordercolor={0.65 0.79 0.94}]{ }
93 &\[*[-0.9em]\textforlabel{t1}{Ground floor:}&%
94 \CheckBox[name=e1,width=1.2em,%
95 bordercolor={0.65 0.79 0.94}]{ }
96 &\[*[-0.9em]\textforlabel{t2}{First floor:}&%
97 \CheckBox[name=e2,width=1.2em,%
98 bordercolor={0.65 0.79 0.94}]{ }
99 &\
100 \hrline
101 \end{tabular}
102 \end{Form}
103 \end{document}

```

In ex0009.pdf we change stroke and fill colors and text fonts before and after printing. We have to change the *fillColor*, *strokeColor* and *textFont* attributes. The changes are enclosed in

```

1  this.delay = true
2  // ...
3  this.delay = false

```

to avoid multiple screen refreshes after each change.

In *myFirstJavaScriptFunction()* we set defaults for the choice lists *abt* and *zeit* using:

```

1  this.getField("abt").currentValueIndices = 0;
2  this.getField("zeit").currentValueIndices = 0;

```

We set the focus to the *vorname* field by:

```

1  this.getField("vorname").setFocus();

```

```

1  \documentclass[ngerman,a4paper]{scrartcl}
2  \usepackage[T1]{fontenc}
3  \usepackage{textcomp}
4  \usepackage{mathptmx}
5  \usepackage[scaled=.92]{helvet}
6  \usepackage{courier}
7  \renewcommand*{\familydefault}{phv}
8  \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}
9  \usepackage{fancyhdr}
10 \lhead{ABC, Inc.}\chead{}\rhead{XYZ Dept.}
11 \lfoot{}\cfoot{}\rfoot{}
12 \pagestyle{fancy}
13 \usepackage{graphicx}
14 \usepackage{color}
15 \usepackage[
16   pdftex,a4paper=true,colorlinks=true,
17   pdftitle={Key form},pdfsubject={Key},
18   pdfauthor={ich},
19   pdfpagemode=UseNone,pdfstartview=FitH,
20   pagebackref,pdfhighlight={/N}
21 ]{hyperref}
22 \usepackage[pdftex]{insdljs}
23 \immediate\pdfobj {
24 <<
25   /WP << /S /JavaScript /JS (willPrint();) >>
26   /DP << /S /JavaScript /JS (didPrint();) >>
27 >>
28 }
29 \pdfcatalog{/AA \the\pdfobj\space 0 R}
30 \begin{insDLJS}[exaaad]{exaaad}{Document Level JavaScript}
31
32 // indicate that the function was not yet run

```

```

33 var done = 0;
34
35 function colorsPrinting()
36 {
37     this.getField("vorname").fillColor = color.white;
38     this.getField("name").fillColor = color.white;
39     this.getField("abt").fillColor = color.white;
40     this.getField("zeit").fillColor = color.white;
41     this.getField("from").fillColor = color.white;
42     this.getField("until").fillColor = color.white;
43     this.getField("ht").fillColor = color.white;
44     this.getField("e1").fillColor = color.white;
45     this.getField("e2").fillColor = color.white;
46
47     this.getField("vorname").strokeColor = color.black;
48     this.getField("name").strokeColor = color.black;
49     this.getField("abt").strokeColor = color.black;
50     this.getField("zeit").strokeColor = color.black;
51     this.getField("from").strokeColor = color.black;
52     this.getField("until").strokeColor = color.black;
53     this.getField("ht").strokeColor = color.black;
54     this.getField("e1").strokeColor = color.black;
55     this.getField("e2").strokeColor = color.black;
56
57     this.getField("vorname").textFont = font.Helv;
58     this.getField("name").textFont = font.Helv;
59     this.getField("abt").textFont = font.Helv;
60     this.getField("zeit").textFont = font.Helv;
61     this.getField("from").textFont = font.Helv;
62     this.getField("until").textFont = font.Helv;
63 }
64
65 function colorsScreen()
66 {
67
68     var newcolor = [ "RGB", 0.65, 0.79, 0.94];
69     this.getField("vorname").fillColor = newcolor;
70     this.getField("name").fillColor = newcolor;
71     this.getField("abt").fillColor = newcolor;
72     this.getField("zeit").fillColor = newcolor;
73     this.getField("from").fillColor = newcolor;
74     this.getField("until").fillColor = newcolor;
75     this.getField("ht").fillColor = newcolor;
76     this.getField("e1").fillColor = newcolor;

```

```

77     this.getField("e2").fillColor = newcolor;
78
79     this.getField("vorname").strokeColor = newcolor;
80     this.getField("name").strokeColor = newcolor;
81     this.getField("abt").strokeColor = newcolor;
82     this.getField("zeit").strokeColor = newcolor;
83     this.getField("from").strokeColor = newcolor;
84     this.getField("until").strokeColor = newcolor;
85     this.getField("ht").strokeColor = newcolor;
86     this.getField("e1").strokeColor = newcolor;
87     this.getField("e2").strokeColor = newcolor;
88
89     this.getField("vorname").textFont = font.HelvB;
90     this.getField("name").textFont = font.HelvB;
91     this.getField("abt").textFont = font.HelvB;
92     this.getField("zeit").textFont = font.HelvB;
93     this.getField("from").textFont = font.HelvB;
94     this.getField("until").textFont = font.HelvB;
95 }
96
97 function willPrint()
98 {
99     this.delay = true;
100    colorsPrinting();
101    this.delay = false;
102 }
103
104 function didPrint()
105 {
106     this.delay = true;
107     colorsScreen();
108     this.delay = false;
109 }
110
111 // function to run when opening the document
112 function myFirstJavaScriptFunction()
113 {
114     if(!done) {
115         done = 1;
116         this.delay = true;
117         colorsScreen();
118         this.getField("abt").currentValueIndices = 0;
119         this.getField("zeit").currentValueIndices = 0;
120         this.getField("vorname").setFocus();

```

```

121     this.delay = false;
122   }
123 }
124 \end{insDLJS}
125 \OpenAction{/S /JavaScript /JS (myFirstJavaScriptFunction();) }
126 \newcommand{\textforlabel}[2]{%
127 \TextField[name={#1},value={#2},width=7em,align=2,%
128 bordercolor={1 1 1},readonly=true]}%
129 }
130 \begin{document}
131 \section*{Request for a key}
132 \begin{Form}
133 \begin{tabular}{|r|l|}
134 \hline
135 & \multicolumn{2}{|c|}{\textbf{Employee}} \\
136 & \textforlabel{vn}{First name:}& \\
137 \TextField[name=vorname,width=20em,%
138 bordercolor={0.65 0.79 0.94}]{ } \\
139 & \textforlabel{nn}{Name:}& \\
140 \TextField[name=name,width=20em,%
141 bordercolor={0.65 0.79 0.94}]{ } \\
142 & \textforlabel{ab}{Department:}& \\
143 \ChoiceMenu[name=abt,width=20em,popdown=true,value=v,%
144 bordercolor={0.65 0.79 0.94}]{ } \\
145 Sales=v,Production=f,Service=s \\
146 & \hline
147 & \multicolumn{2}{|c|}{\textbf{Time}} \\
148 & \textforlabel{z}{Time:}& \\
149 \ChoiceMenu[name=zeit,width=20em,popdown=true,value=u,%
150 bordercolor={0.65 0.79 0.94}]{ } \\
151 unlimited=u,limited=b \\
152 & \textforlabel{v}{from:}& \\
153 \TextField[name=from,width=10em,%
154 bordercolor={0.65 0.79 0.94}]{ } \\
155 & \textforlabel{b}{until:}& \\
156 \TextField[name=until,width=10em,%
157 bordercolor={0.65 0.79 0.94}]{ } \\
158 & \hline
159 & \multicolumn{2}{|c|}{%
160 \textbf{Doors}} \\
161 & \textforlabel{th}{Front door:}& \\
162 \CheckBox[name=ht,width=1.2em,%
163 bordercolor={0.65 0.79 0.94}]{ } \\
164 & \textforlabel{t1}{Ground floor:}&

```

```

165 \CheckBox[name=e1,width=1.2em,%
166 bordercolor={0.65 0.79 0.94}]{}\\
167 &\\*[-0.9em]\textforlabel{t2}{First floor:}&%
168 \CheckBox[name=e2,width=1.2em,%
169 bordercolor={0.65 0.79 0.94}]{}\\
170 &\\
171 \hline
172 \end{tabular}
173 \end{Form}
174 \end{document}

```

## 4.9 Form element events: ex0010

Events can be triggered by form elements, in the example we assign the function *validateTime()* as an event handler for the *Validate* event of the *zeit* choice list.

```
1 validate={ validateTime (); }
```

If the user leaves the choice field the function is invoked and turns the “from” and “until” text fields visible

```
1 this . getField ( " von " ) . display = display . visible ;  
2 this . getField ( " bis " ) . display = display . visible ;
```

or invisible.

```
1 this . getField ( " von " ) . display = display . hidden ;  
2 this . getField ( " bis " ) . display = display . hidden ;
```

```
1 \documentclass [ ngerman , a4paper ] { scrartcl }  
2 \usepackage [ T1 ] { fontenc }  
3 \usepackage { textcomp }  
4 \usepackage { mathptmx }  
5 \usepackage [ scaled = .92 ] { helvet }  
6 \usepackage { courier }  
7 \renewcommand * { \familydefault } { phv }  
8 \usepackage [ left = 25mm , top = 25mm , bottom = 10mm , right = 10mm ] { geometry }  
9 \usepackage { fancyhdr }  
10 \lhead { ABC , Inc . } \chead { } \rhead { XYZ Dept . }  
11 \lfoot { } \cfoot { } \rfoot { }  
12 \pagestyle { fancy }  
13 \usepackage { graphicx }  
14 \usepackage { color }  
15 \usepackage [  
16   pdftex , a4paper = true , colorlinks = true ,  
17   pdftitle = { Key form } , pdfsubject = { Key } ,  
18   pdfauthor = { ich } ,  
19   pdfpagemode = UseNone , pdfstartview = FitH ,  
20   pagebackref , pdfhighlight = { /N }  
21 ] { hyperref }  
22 \usepackage [ pdftex ] { insdljs }  
23 \immediate \pdfobj {  
24 <<  
25   /WP << /S /JavaScript /JS ( willPrint ( ) ; ) >>  
26   /DP << /S /JavaScript /JS ( didPrint ( ) ; ) >>  
27 >>  
28 }  
29 \pdfcatalog { /AA \the \pdflastobj \space 0 R }
```



```

30 \begin{insDLJS}[exaaae]{exaaae}{Document Level JavaScript}
31
32 // indicate that the function was not yet run
33 var done = 0;
34
35 function colorsPrinting()
36 {
37   this.getField("vorname").fillColor = color.white;
38   this.getField("name").fillColor = color.white;
39   this.getField("abt").fillColor = color.white;
40   this.getField("zeit").fillColor = color.white;
41   this.getField("from").fillColor = color.white;
42   this.getField("until").fillColor = color.white;
43   this.getField("ht").fillColor = color.white;
44   this.getField("e1").fillColor = color.white;
45   this.getField("e2").fillColor = color.white;
46
47   this.getField("vorname").strokeColor = color.black;
48   this.getField("name").strokeColor = color.black;
49   this.getField("abt").strokeColor = color.black;
50   this.getField("zeit").strokeColor = color.black;
51   this.getField("from").strokeColor = color.black;
52   this.getField("until").strokeColor = color.black;
53   this.getField("ht").strokeColor = color.black;
54   this.getField("e1").strokeColor = color.black;
55   this.getField("e2").strokeColor = color.black;
56
57   this.getField("vorname").textFont = font.Helv;
58   this.getField("name").textFont = font.Helv;
59   this.getField("abt").textFont = font.Helv;
60   this.getField("zeit").textFont = font.Helv;
61   this.getField("from").textFont = font.Helv;
62   this.getField("until").textFont = font.Helv;
63   this.getField("from").textColor = color.black;
64   this.getField("until").textColor = color.black;
65 }
66
67 function colorsScreen()
68 {
69
70   var newcolor = [ "RGB", 0.65, 0.79, 0.94];
71   this.getField("vorname").fillColor = newcolor;
72   this.getField("name").fillColor = newcolor;
73   this.getField("abt").fillColor = newcolor;

```

```

74  this.getField("zeit").fillColor = newcolor;
75  this.getField("from").fillColor = newcolor;
76  this.getField("until").fillColor = newcolor;
77  this.getField("ht").fillColor = newcolor;
78  this.getField("e1").fillColor = newcolor;
79  this.getField("e2").fillColor = newcolor;
80
81  this.getField("vorname").strokeColor = newcolor;
82  this.getField("name").strokeColor = newcolor;
83  this.getField("abt").strokeColor = newcolor;
84  this.getField("zeit").strokeColor = newcolor;
85  this.getField("from").strokeColor = newcolor;
86  this.getField("until").strokeColor = newcolor;
87  this.getField("ht").strokeColor = newcolor;
88  this.getField("e1").strokeColor = newcolor;
89  this.getField("e2").strokeColor = newcolor;
90
91  this.getField("vorname").textFont = font.HelvB;
92  this.getField("name").textFont = font.HelvB;
93  this.getField("abt").textFont = font.HelvB;
94  this.getField("zeit").textFont = font.HelvB;
95  this.getField("from").textFont = font.HelvB;
96  this.getField("from").textColor = color.black;
97  this.getField("until").textColor = color.black;
98  this.getField("until").textFont = font.HelvB;
99 }
100
101 function validateTime()
102 {
103     this.delay = true;
104     if((event.value == "u") || (event.value == "unlimited")) {
105         this.getField("from").display = display.hidden;
106         this.getField("until").display = display.hidden;
107     } else {
108         this.getField("from").display = display.visible;
109         this.getField("until").display = display.visible;
110         this.getField("from").setFocus();
111     }
112     this.delay = false;
113 }
114
115 function willPrint()
116 {
117     this.delay = true;

```

```

118  colorsPrinting ();
119  this.delay = false ;
120 }
121
122 function didPrint ()
123 {
124  this.delay = true ;
125  colorsScreen ();
126  this.delay = false ;
127 }
128
129 // function to run when opening the document
130 function myFirstJavaScriptFunction ()
131 {
132  if (!done) {
133    done = 1 ;
134    this.delay = true ;
135    colorsScreen ();
136    this.getField (" abt ").currentValueIndices = 0 ;
137    this.getField (" zeit ").currentValueIndices = 0 ;
138    this.getField (" vorname ").setFocus ();
139    this.delay = false ;
140  }
141 }
142 \end{insDLJS }
143 \OpenAction {/S /JavaScript /JS (myFirstJavaScriptFunction ();)}
144 \newcommand {\textforlabel }[2]{%
145 \TextField [name={#1} , value={#2} , width=7em , align=2,%
146 bordercolor={1 1 1} , readonly=true ]{}%
147 }
148 \begin{document }
149 \section*{Request for a key}
150 \begin{Form}
151 \begin{tabular }{|r|l|}
152 \hline
153 & \textbf{Employee } \\
154 & \textforlabel {vn}{First name:}&
155 \TextField [name=vorname , width=20em,%
156 bordercolor={0.65 0.79 0.94} ]{} \\
157 & \textforlabel {nn}{Name:}&
158 \TextField [name=name , width=20em,%
159 bordercolor={0.65 0.79 0.94} ]{} \\
160 & \textforlabel {ab}{Department:}&
161 \ChoiceMenu [name=abt , width=20em , popdown=true , value=v,%

```

```

162 bordercolor={0.65 0.79 0.94}}{}{ %
163 Sales=v , Production=f , Service=s }\\
164 &\\*[-0.9em]\hrline
165 &\\*[-0.9em]\multicolumn{2}{|c|}{\textbf{Time}}\\
166 &\\*[-0.9em]\textforlabel{z}{Time:}&%
167 \ChoiceMenu[name=zeit , width=20em, popdown=true , value=u,%
168 validate={ validateTime (); } , %
169 bordercolor={0.65 0.79 0.94}}{}{ %
170 unlimited=u , limited=b }\\
171 &\\*[-0.9em]\textforlabel{v}{from:}&%
172 \TextField[name=from , width=10em,%
173 bordercolor={0.65 0.79 0.94}}{}\\
174 &\\*[-0.9em]\textforlabel{b}{until:}&%
175 \TextField[name=until , width=10em,%
176 bordercolor={0.65 0.79 0.94}}{}\\
177 &\\*[-0.9em]\hrline
178 &\\*[-0.9em]\multicolumn{2}{|c|}{ %
179 \textbf{Doors } }\\
180 &\\*[-0.9em]\textforlabel{th}{Front door:}&%
181 \CheckBox[name=ht , width=1.2em,%
182 bordercolor={0.65 0.79 0.94}}{}\\
183 &\\*[-0.9em]\textforlabel{t1}{Ground floor:}&%
184 \CheckBox[name=e1 , width=1.2em,%
185 bordercolor={0.65 0.79 0.94}}{}\\
186 &\\*[-0.9em]\textforlabel{t2}{First floor:}&%
187 \CheckBox[name=e2 , width=1.2em,%
188 bordercolor={0.65 0.79 0.94}}{}\\
189 &\\
190 \hrline
191 \end{tabular}
192 \end{Form}
193 \end{document}

```

## 4.10 Editable choice list: ex0011

In the choice list *abt* we want to either choose an entry from the list or add text.

The parameter

```
1 combo=true
```

activates combo box behaviour.

Additionally we add a JavaScript code line

```
1 this.getField("abt").editable = true;
```

into our initialization function *myFirstJavaScriptFunction()*.

```
1 \documentclass[ngerman,a4paper]{scrartcl}
2 \usepackage[T1]{fontenc}
3 \usepackage{textcomp}
4 \usepackage{mathptmx}
5 \usepackage[scaled=.92]{helvet}
6 \usepackage{courier}
7 \renewcommand*{\familydefault}{phv}
8 \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}
9 \usepackage{fancyhdr}
10 \lhead{ABC, Inc.}\chead{}\rhead{XYZ Dept.}
11 \lfoot{}\cfoot{}\rfoot{}
12 \pagestyle{fancy}
13 \usepackage{graphicx}
14 \usepackage{color}
15 \usepackage[
16   pdftex,a4paper=true,colorlinks=true,
17   pdftitle={Key form},pdfsubject={Key},
18   pdfauthor={ich},
19   pdfpagemode=UseNone,pdfstartview=FitH,
20   pagebackref,pdfhighlight={/N}
21 ]{hyperref}
22 \usepackage[pdftex]{insdljs}
23 \immediate\pdfobj {
24 <<
25   /WP << /S /JavaScript /JS (willPrint();) >>
26   /DP << /S /JavaScript /JS (didPrint();) >>
27 >>
28 }
29 \pdfcatalog{/AA \the\pdflastobj\space 0 R}
30 \begin{insDLJS}[exaaae]{exaaae}{Document Level JavaScript}
31
32 // indicate that the function was not yet run
33 var done = 0;
```

```

34
35 function colorsPrinting ()
36 {
37     this.getField ("vorname").fillColor = color.white;
38     this.getField ("name").fillColor = color.white;
39     this.getField ("abt").fillColor = color.white;
40     this.getField ("zeit").fillColor = color.white;
41     this.getField ("from").fillColor = color.white;
42     this.getField ("until").fillColor = color.white;
43     this.getField ("ht").fillColor = color.white;
44     this.getField ("e1").fillColor = color.white;
45     this.getField ("e2").fillColor = color.white;
46
47     this.getField ("vorname").strokeColor = color.black;
48     this.getField ("name").strokeColor = color.black;
49     this.getField ("abt").strokeColor = color.black;
50     this.getField ("zeit").strokeColor = color.black;
51     this.getField ("from").strokeColor = color.black;
52     this.getField ("until").strokeColor = color.black;
53     this.getField ("ht").strokeColor = color.black;
54     this.getField ("e1").strokeColor = color.black;
55     this.getField ("e2").strokeColor = color.black;
56
57     this.getField ("vorname").textFont = font.Helv;
58     this.getField ("name").textFont = font.Helv;
59     this.getField ("abt").textFont = font.Helv;
60     this.getField ("zeit").textFont = font.Helv;
61     this.getField ("from").textFont = font.Helv;
62     this.getField ("until").textFont = font.Helv;
63     this.getField ("from").textColor = color.black;
64     this.getField ("until").textColor = color.black;
65 }
66
67 function colorsScreen ()
68 {
69
70     var newcolor = [ "RGB", 0.65, 0.79, 0.94];
71     this.getField ("vorname").fillColor = newcolor;
72     this.getField ("name").fillColor = newcolor;
73     this.getField ("abt").fillColor = newcolor;
74     this.getField ("zeit").fillColor = newcolor;
75     this.getField ("from").fillColor = newcolor;
76     this.getField ("until").fillColor = newcolor;
77     this.getField ("ht").fillColor = newcolor;

```

```

78     this.getField("e1").fillColor = newcolor;
79     this.getField("e2").fillColor = newcolor;
80
81     this.getField("vorname").strokeColor = newcolor;
82     this.getField("name").strokeColor = newcolor;
83     this.getField("abt").strokeColor = newcolor;
84     this.getField("zeit").strokeColor = newcolor;
85     this.getField("from").strokeColor = newcolor;
86     this.getField("until").strokeColor = newcolor;
87     this.getField("ht").strokeColor = newcolor;
88     this.getField("e1").strokeColor = newcolor;
89     this.getField("e2").strokeColor = newcolor;
90
91     this.getField("vorname").textFont = font.HelvB;
92     this.getField("name").textFont = font.HelvB;
93     this.getField("abt").textFont = font.HelvB;
94     this.getField("zeit").textFont = font.HelvB;
95     this.getField("from").textFont = font.HelvB;
96     this.getField("from").textColor = color.black;
97     this.getField("until").textColor = color.black;
98     this.getField("until").textFont = font.HelvB;
99 }
100
101 function validateTime()
102 {
103     this.delay = true;
104     if((event.value == "u") || (event.value == "unlimited")) {
105         this.getField("from").display = display.hidden;
106         this.getField("until").display = display.hidden;
107     } else {
108         this.getField("from").display = display.visible;
109         this.getField("until").display = display.visible;
110         this.getField("from").setFocus();
111     }
112     this.delay = false;
113 }
114
115 function willPrint()
116 {
117     this.delay = true;
118     colorsPrinting();
119     this.delay = false;
120 }
121

```

```

122 function didPrint()
123 {
124     this.delay = true;
125     colorsScreen();
126     this.delay = false;
127 }
128
129 // function to run when opening the document
130 function myFirstJavaScriptFunction()
131 {
132     if(!done) {
133         done = 1;
134         this.delay = true;
135         colorsScreen();
136         this.getField("abt").currentValueIndices = 0;
137         this.getField("abt").editable = true;
138         this.getField("zeit").currentValueIndices = 0;
139         this.getField("vorname").setFocus();
140         this.delay = false;
141     }
142 }
143 \end{insDLJS}
144 \OpenAction{/S /JavaScript /JS (myFirstJavaScriptFunction();)}
145 \newcommand{\textforlabel}[2]{%
146 \TextField[name={#1},value={#2},width=7em,align=2,%
147 bordercolor={1 1 1},readonly=true]}{%
148 }
149 \begin{document}
150 \section*{Request for a key}
151 \begin{Form}
152 \begin{tabular}{|r|l|}
153 \hline
154 & \multicolumn{2}{|c|}{\textbf{Employee}} \\
155 & \textforlabel{vn}{First name:}& \\
156 \TextField[name=vorname,width=20em,%
157 bordercolor={0.65 0.79 0.94}]{ } \\
158 & \textforlabel{nn}{Name:}& \\
159 \TextField[name=name,width=20em,%
160 bordercolor={0.65 0.79 0.94}]{ } \\
161 & \textforlabel{ab}{Department:}& \\
162 \ChoiceMenu[name=abt,width=20em,popdown=true,combo=true,value=v,%
163 bordercolor={0.65 0.79 0.94}]{ } \\
164 Sales=v,Production=f,Service=s \\
165 & \textforlabel{ab}{Department:}&

```



```

166 &\[*[-0.9em]\multicolumn{2}{|c|}{\textbf{Time}}\}
167 &\[*[-0.9em]\textforlabel{z}{Time:}&%
168 \ChoiceMenu[name=zeit , width=20em, popdown=true , value=u, %
169 validate={ validateTime (); } , %
170 bordercolor={0.65 0.79 0.94}]{ } %
171 unlimited=u , limited=b }\}
172 &\[*[-0.9em]\textforlabel{v}{from:}&%
173 \TextField[name=from , width=10em, %
174 bordercolor={0.65 0.79 0.94}]{ } \}
175 &\[*[-0.9em]\textforlabel{b}{until:}&%
176 \TextField[name=until , width=10em, %
177 bordercolor={0.65 0.79 0.94}]{ } \}
178 &\[*[-0.9em]\hline
179 &\[*[-0.9em]\multicolumn{2}{|c|}{ %
180 \textbf{Doors } } \}
181 &\[*[-0.9em]\textforlabel{th}{Front door:}&%
182 \CheckBox[name=ht , width=1.2em, %
183 bordercolor={0.65 0.79 0.94}]{ } \}
184 &\[*[-0.9em]\textforlabel{t1}{Ground floor:}&%
185 \CheckBox[name=e1 , width=1.2em, %
186 bordercolor={0.65 0.79 0.94}]{ } \}
187 &\[*[-0.9em]\textforlabel{t2}{First floor:}&%
188 \CheckBox[name=e2 , width=1.2em, %
189 bordercolor={0.65 0.79 0.94}]{ } \}
190 &\}
191 \hline
192 \end{tabular}
193 \end{Form}
194 \end{document}

```

## 4.11 Adding help

### 4.11.1 Overview

Online help can be provided on different ways:

- PDF annotations  
Annotations are represented using icons. If the user moves the mouse over an annotation icon, the annotation text is shown in a tooltip. If the user double-clicks the annotation, the note is shown on the screen.  
Advantage: Annotations do not need JavaScript.  
Disadvantage: Place is needed for the icons.
- tooltips  
Tooltip text is shown if the user moves the mouse over a form field. Most users know the concept of tooltips from other applications.  
Tooltip text can not (yet?<sup>2</sup>) be set using hyperrefs form field options, so we use JavaScript instructions to set up tooltips.

### 4.11.2 PDF annotations

To create a help annotation use

```
1 ~\pdfannot width 20pt {  
2     /Subtype /Text  
3     /Name /Help  
4     /C [0.65 0.79 0.94]  
5     /T (Help text title)  
6     /Contents (The help text to show.)  
7 } \(\quad\)
```

No room is reserved by pdfL<sup>A</sup>T<sub>E</sub>X for the icon, so we add some space (quad). To have some room between the form field and the help icon we use a non-breaking space.

The “/Name /Help” entry chooses the annotation icon (question mark).

The “/C” entry sets the icon color, I recommend to use the same color as used in the form fields.

Example ex0012 shows how to use PDF annotations to provide help.

---

<sup>2</sup>2008-02-07

### 4.11.3 Tooltips

Use

```
1 this.getField("fieldname").userName = "Help text here";
```

to set up tooltip texts. The instruction should be run in the function executed automatically when the document is opened.

Example ex0013 shows how to set up tooltip texts.

If you use the “inputenc” package you have to use special notations in JavaScript code to express foreign characters (i. e. german umlauts), see 7 on page 54.

## 5 Another form

### 5.1 Goal

We want to create a form to require software licenses and installation.

Information about the PC and the owner are entered in text fields. The software is chosen from choice lists. We have several lists providing the same choices. The choice lists are combo boxes so users can manually type in names of special software applications if necessary.

### 5.2 Initializing a choice list using JavaScript: ex0101

The choice lists can be initialized using JavaScript instead of writing the choices in the `\Choice-Menu[ ]` macro.

This provides a better overview.

Choices are specified in an array. Each array element is an array again, consisting of two entries: the full text shown on screen and an abbreviation:

```
1 var softwareAuswahl = [  
2   [ "", "" ],  
3   [ "Betriebssystem", "os" ],  
4   [ "Textverarbeitung", "tp" ],  
5   [ "Tabellenkalkulation", "sc" ],  
6   [ "Präsentationsprogramm", "pp" ],  
7   [ "E-Mail-Client", "mc" ],  
8   [ "Web browser", "wb" ],  
9   [ "Mathematik-Software", "ms" ],  
10  [ "PDF-Anzeigeprogramm", "pv" ]  
11 ];
```

The `setItems()` method sets the choices for a choice list:

```
1 this.getField("sw01").setItems(softwareAuswahl);
```

```
1 \documentclass[ngerman,a4paper]{scrartcl}  
2 \usepackage[T1]{fontenc}  
3 \usepackage{textcomp}  
4 \usepackage{mathptmx}  
5 \usepackage[scaled=.92]{helvet}  
6 \usepackage{courier}  
7 \renewcommand*{\familydefault}{phv}  
8 \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}  
9 \usepackage{fancyhdr}  
10 \lhead{ABC, Inc.}\chead{}\rhead{XYZ Dept.}  
11 \lfoot{}\cfoot{}\rfoot{}  
12 \pagestyle{fancy}  
13 \usepackage{graphicx}
```

```

14 \usepackage{ color }
15 \usepackage[
16   pdftex , a4paper=true , colorlinks=true ,
17   pdftitle={ Software installation request }, pdfsubject={ Software },
18   pdfauthor={ ich },
19   pdfpagemode=UseNone , pdfstartview=FitH ,
20   pagebackref , pdfhighlight={/N}
21 ]{ hyperref }
22 \usepackage[ pdftex ]{ insdljs }
23 \immediate\pdfobj {
24 <<
25   /WP << /S /JavaScript /JS ( willPrint (); ) >>
26   /DP << /S /JavaScript /JS ( didPrint (); ) >>
27 >>
28 }
29 \pdfcatalog {/AA \the\pdflastobj\space 0 R}
30 \begin{insDLJS}[exaaba]{exaaba}{Document Level JavaScript}
31
32 // indicate that the function was not yet run
33 var done = 0;
34
35 function colorsPrinting ()
36 {
37   this.getField("vorname").fillColor = color.white;
38   this.getField("vorname").strokeColor = color.black;
39   this.getField("vorname").textFont = font.Helv;
40   this.getField("name").fillColor = color.white;
41   this.getField("name").strokeColor = color.black;
42   this.getField("name").textFont = font.Helv;
43   this.getField("inventory").fillColor = color.white;
44   this.getField("inventory").strokeColor = color.black;
45   this.getField("inventory").textFont = font.Helv;
46   this.getField("sw01").fillColor = color.white;
47   this.getField("sw01").strokeColor = color.black;
48   this.getField("sw01").textFont = font.Helv;
49   this.getField("sw02").fillColor = color.white;
50   this.getField("sw02").strokeColor = color.black;
51   this.getField("sw02").textFont = font.Helv;
52   this.getField("sw03").fillColor = color.white;
53   this.getField("sw03").strokeColor = color.black;
54   this.getField("sw03").textFont = font.Helv;
55   this.getField("sw04").fillColor = color.white;
56   this.getField("sw04").strokeColor = color.black;
57   this.getField("sw04").textFont = font.Helv;

```

```

58  this.getField("sw05").fillColor = color.white;
59  this.getField("sw05").strokeColor = color.black;
60  this.getField("sw05").textFont = font.Helv;
61  this.getField("sw06").fillColor = color.white;
62  this.getField("sw06").strokeColor = color.black;
63  this.getField("sw06").textFont = font.Helv;
64  this.getField("sw07").fillColor = color.white;
65  this.getField("sw07").strokeColor = color.black;
66  this.getField("sw07").textFont = font.Helv;
67  this.getField("sw08").fillColor = color.white;
68  this.getField("sw08").strokeColor = color.black;
69  this.getField("sw08").textFont = font.Helv;
70  this.getField("sw09").fillColor = color.white;
71  this.getField("sw09").strokeColor = color.black;
72  this.getField("sw09").textFont = font.Helv;
73  this.getField("sw10").fillColor = color.white;
74  this.getField("sw10").strokeColor = color.black;
75  this.getField("sw10").textFont = font.Helv;
76  }
77
78  function colorsScreen()
79  {
80
81  var newcolor = [ "RGB", 0.65, 0.79, 0.94];
82  this.getField("vorname").fillColor = newcolor;
83  this.getField("vorname").strokeColor = newcolor;
84  this.getField("vorname").textFont = font.HelvB;
85  this.getField("name").fillColor = newcolor;
86  this.getField("name").strokeColor = newcolor;
87  this.getField("name").textFont = font.HelvB;
88  this.getField("inventory").fillColor = newcolor;
89  this.getField("inventory").strokeColor = newcolor;
90  this.getField("inventory").textFont = font.HelvB;
91  this.getField("sw01").fillColor = newcolor;
92  this.getField("sw01").strokeColor = newcolor;
93  this.getField("sw01").textFont = font.HelvB;
94  this.getField("sw02").fillColor = newcolor;
95  this.getField("sw02").strokeColor = newcolor;
96  this.getField("sw02").textFont = font.HelvB;
97  this.getField("sw03").fillColor = newcolor;
98  this.getField("sw03").strokeColor = newcolor;
99  this.getField("sw03").textFont = font.HelvB;
100 this.getField("sw04").fillColor = newcolor;
101 this.getField("sw04").strokeColor = newcolor;

```

```

102  this.getField("sw04").textFont = font.HelvB;
103  this.getField("sw05").fillColor = newcolor;
104  this.getField("sw05").strokeColor = newcolor;
105  this.getField("sw05").textFont = font.HelvB;
106  this.getField("sw06").fillColor = newcolor;
107  this.getField("sw06").strokeColor = newcolor;
108  this.getField("sw06").textFont = font.HelvB;
109  this.getField("sw07").fillColor = newcolor;
110  this.getField("sw07").strokeColor = newcolor;
111  this.getField("sw07").textFont = font.HelvB;
112  this.getField("sw08").fillColor = newcolor;
113  this.getField("sw08").strokeColor = newcolor;
114  this.getField("sw08").textFont = font.HelvB;
115  this.getField("sw09").fillColor = newcolor;
116  this.getField("sw09").strokeColor = newcolor;
117  this.getField("sw09").textFont = font.HelvB;
118  this.getField("sw10").fillColor = newcolor;
119  this.getField("sw10").strokeColor = newcolor;
120  this.getField("sw10").textFont = font.HelvB;
121 }
122
123 function willPrint()
124 {
125     this.delay = true;
126     colorsPrinting();
127     this.delay = false;
128 }
129
130 function didPrint()
131 {
132     this.delay = true;
133     colorsScreen();
134     this.delay = false;
135 }
136
137 var softwareAuswahl = [
138     [ "", "" ],
139     [ "Operating system", "os" ],
140     [ "Text processing", "tp" ],
141     [ "Spreadsheet calculation", "sc" ],
142     [ "Präsentationsprogramm", "pp" ],
143     [ "E-mail client", "mc" ],
144     [ "Web browser", "wb" ],
145     [ "Mathematics software", "ms" ],

```

```

146 [ "PDF viewer", "pv" ]
147 ];
148
149 // function to run when opening the document
150 function myFirstJavaScriptFunction ()
151 {
152     if (!done) {
153         done = 1;
154         this.delay = true;
155         colorsScreen ();
156         this.getField ("sw01").setItems (softwareAuswahl);
157         this.getField ("sw01").currentValueIndices = 0;
158         this.getField ("sw01").editable = true;
159         this.getField ("sw02").setItems (softwareAuswahl);
160         this.getField ("sw02").currentValueIndices = 0;
161         this.getField ("sw02").editable = true;
162         this.getField ("sw03").setItems (softwareAuswahl);
163         this.getField ("sw03").currentValueIndices = 0;
164         this.getField ("sw03").editable = true;
165         this.getField ("sw04").setItems (softwareAuswahl);
166         this.getField ("sw04").currentValueIndices = 0;
167         this.getField ("sw04").editable = true;
168         this.getField ("sw05").setItems (softwareAuswahl);
169         this.getField ("sw05").currentValueIndices = 0;
170         this.getField ("sw05").editable = true;
171         this.getField ("sw06").setItems (softwareAuswahl);
172         this.getField ("sw06").currentValueIndices = 0;
173         this.getField ("sw06").editable = true;
174         this.getField ("sw07").setItems (softwareAuswahl);
175         this.getField ("sw07").currentValueIndices = 0;
176         this.getField ("sw07").editable = true;
177         this.getField ("sw08").setItems (softwareAuswahl);
178         this.getField ("sw08").currentValueIndices = 0;
179         this.getField ("sw08").editable = true;
180         this.getField ("sw09").setItems (softwareAuswahl);
181         this.getField ("sw09").currentValueIndices = 0;
182         this.getField ("sw09").editable = true;
183         this.getField ("sw10").setItems (softwareAuswahl);
184         this.getField ("sw10").currentValueIndices = 0;
185         this.getField ("sw10").editable = true;
186         this.getField ("vorname").setFocus ();
187         this.delay = false;
188     }
189 }

```



```

190 \end{insDLJS}
191 \OpenAction{/S /JavaScript /JS (myFirstJavaScriptFunction();)}
192 \newcommand{\textforlabel}[2]{%
193 \TextField[name={#1},value={#2},width=9em,align=2,%
194 bordercolor={1 1 1},readonly=true]}{%
195 }
196 \begin{document}
197 \section*{Request for software licenses and installation}
198 \begin{Form}
199 \begin{tabular}{|r|}
200 \hline
201 \multicolumn{2}{|c|}{\*\*[-0.9em]
202 \multicolumn{2}{|c|}{\textbf{Systems owner}}}\
203 &\*\*[-0.9em]\textforlabel{101}{First name:}&\TextField[%
204 name=vorname,width=20em,bordercolor={0.65 0.79 0.94}]{}\
205 &\*\*[-0.9em]\textforlabel{102}{Name:}&\TextField[%
206 name=name,width=20em,bordercolor={0.65 0.79 0.94}]{}\
207 &\*\*[-0.9em]\hline
208 \multicolumn{2}{|c|}{\*\*[-0.9em]
209 \multicolumn{2}{|c|}{\textbf{PC}}}\
210 &\*\*[-0.9em]\textforlabel{103}{inventory number:}%
211 &\TextField[name=inventory,width=20em,%
212 bordercolor={0.65 0.79 0.94}]{}\
213 &\*\*[-0.9em]\hline
214 \multicolumn{2}{|c|}{\*\*[-0.9em]
215 \multicolumn{2}{|c|}{\textbf{Software}}}\
216 \multicolumn{2}{|c|}{\*\*[-0.9em]
217 \multicolumn{2}{|r|}{\ChoiceMenu[name=sw01,width=30em,%
218 popdown=true,combo=true,value={}],%
219 bordercolor={0.65 0.79 0.94}]{}}}\
220 \multicolumn{2}{|c|}{\*\*[-0.9em]
221 \multicolumn{2}{|r|}{\ChoiceMenu[name=sw02,width=30em,%
222 popdown=true,combo=true,value={}],%
223 bordercolor={0.65 0.79 0.94}]{}}}\
224 \multicolumn{2}{|c|}{\*\*[-0.9em]
225 \multicolumn{2}{|r|}{\ChoiceMenu[name=sw03,width=30em,%
226 popdown=true,combo=true,value={}],%
227 bordercolor={0.65 0.79 0.94}]{}}}\
228 \multicolumn{2}{|c|}{\*\*[-0.9em]
229 \multicolumn{2}{|r|}{\ChoiceMenu[name=sw04,width=30em,%
230 popdown=true,combo=true,value={}],%
231 bordercolor={0.65 0.79 0.94}]{}}}\
232 \multicolumn{2}{|c|}{\*\*[-0.9em]
233 \multicolumn{2}{|r|}{\ChoiceMenu[name=sw05,width=30em,%

```

```

234 popdown=true , combo=true , value={},%
235 bordercolor={0.65 0.79 0.94}}{}{}\\
236 \multicolumn {2} {|c|} {}\\*[-0.9em]
237 \multicolumn {2} {|r|} {\ChoiceMenu [name=sw06 , width=30em,%
238 popdown=true , combo=true , value={},%
239 bordercolor={0.65 0.79 0.94}}{}{}\\
240 \multicolumn {2} {|c|} {}\\*[-0.9em]
241 \multicolumn {2} {|r|} {\ChoiceMenu [name=sw07 , width=30em,%
242 popdown=true , combo=true , value={},%
243 bordercolor={0.65 0.79 0.94}}{}{}\\
244 \multicolumn {2} {|c|} {}\\*[-0.9em]
245 \multicolumn {2} {|r|} {\ChoiceMenu [name=sw08 , width=30em,%
246 popdown=true , combo=true , value={},%
247 bordercolor={0.65 0.79 0.94}}{}{}\\
248 \multicolumn {2} {|c|} {}\\*[-0.9em]
249 \multicolumn {2} {|r|} {\ChoiceMenu [name=sw09 , width=30em,%
250 popdown=true , combo=true , value={},%
251 bordercolor={0.65 0.79 0.94}}{}{}\\
252 \multicolumn {2} {|c|} {}\\*[-0.9em]
253 \multicolumn {2} {|r|} {\ChoiceMenu [name=sw10 , width=30em,%
254 popdown=true , combo=true , value={},%
255 bordercolor={0.65 0.79 0.94}}{}{}\\
256 \multicolumn {2} {|c|} {~}\\* \hline
257 \end{tabular}
258 \end{Form}
259 \end{document}

```

## 6 Form number three: Interactive application

### 6.1 Goal

The third form is an interactive application, a click on a button starts an investment calculation. The user can provide an investment amount in €, an investment time in years and the annual rate in percent. A click on the start button calculates the investment result.

### 6.2 Processing button click events: ex0201

This form is not intended to be printed, so we can use a non-white background. The paper size is set to 5.2057 inches  $\times$  3.75 inches

The arcument

```
1 onclick={doCalculation() }
```

to the “Start” button specifies the function to invoke when the button is pressed.

*Note:* The function is specified without semicolon here.

The *doCalculation()* function retrieves the input values and runs the calculation. The result is rounded to cents and printed in a text field.

```
1 \documentclass{scrartcl}
2 \setcounter{secnumdepth}{0}
3 \usepackage[T1]{fontenc}
4 \usepackage{textcomp}
5 \usepackage{mathptmx}
6 \usepackage[scaled=.92]{helvet}
7 \usepackage{courier}
8 \setlength{\paperwidth}{5.2075in}
9 \setlength{\paperheight}{3.75in}
10 \renewcommand*{\familydefault}{phv}
11 \usepackage[pdfTeX,margin=0.5in]{geometry}
12 \usepackage{fancyhdr}
13 \lhead{Big Money, Inc.}\chead{}
14 \rhead{Promises Dept.}
15 \lfoot{}\cfoot{}\rfoot{}
16 \pagestyle{fancy}
17 \usepackage{graphicx}
18 \usepackage{color}
19 \usepackage[pdfTeX, pdfpagelayout=SinglePage,%
20 pdftitle={Investment calculation}, pdfsubject={Investment}%
21 ]{hyperref}
22 \definecolor{background}{rgb}{0.99,0.98,0.85}
23 \pagecolor{background}
24 \setlength{\parindent}{0.0cm}
25 \usepackage[pdfTeX]{insdljs}
```

```

26 \begin{insDLJS}[exaaca]{exaaca}{JavaScript}
27 var done = 0;
28
29 function docOpen()
30 {
31   if(!done) {
32     done = 1;
33     var newcolor = [ "RGB", 0.99, 0.98, 0.85];
34     var borcolor = [ "RGB", 0.65, 0.79, 0.94]
35     this.getField("l01").fillColor = newcolor;
36     this.getField("l01").strokeColor = newcolor;
37     this.getField("l02").fillColor = newcolor;
38     this.getField("l02").strokeColor = newcolor;
39     this.getField("l03").fillColor = newcolor;
40     this.getField("l03").strokeColor = newcolor;
41     this.getField("l04").fillColor = newcolor;
42     this.getField("l04").strokeColor = newcolor;
43     this.getField("zeit").currentValueIndices = 0;
44     this.getField("zeit").fillColor = newcolor;
45     this.getField("summe").fillColor = newcolor;
46     this.getField("zins").fillColor = newcolor;
47     this.getField("ergebnis").fillColor = newcolor;
48   }
49 }
50
51 function doCalculation()
52 {
53   var summe = 0.0 + this.getField("summe").value;
54   var zins = 0.0 + this.getField("zins").value;
55   var zeit = 0 + this.getField("zeit").value;
56   var i, faktor, wert;
57   faktor = 1.0 + 0.01 * zins;
58   for(i = 0; i < zeit; i++) {
59     summe = summe * faktor;
60   }
61   wert = Math.round(100.0 * summe);
62   wert = 0.01 * wert;
63   wert = wert.toFixed(2);
64   wert = wert.toString();
65   this.getField("ergebnis").value = wert;
66 }
67 \end{insDLJS}
68 \OpenAction{/S /JavaScript /JS (docOpen();)}
69 \newcommand{\textforlabel}[2]{%

```

```

70 \TextField[name={#1},value={#2},width=9em,align=2,%
71 bordercolor={0.99 0.98 0.85},%
72 fillcolor={0.99 0.98 0.85},readonly=true]{}%
73 }
74 \begin{document}
75 \begin{Form}
76 \begin{tabular}{|r|l|}
77 \hline
78 \multicolumn{2}{|c|}{\*\*[-0.8em]\multicolumn{2}{|c|}{%
79 \textsc{I\,n\,p\,u\,t~D\,a\,t\,a}%
80 }}\
81 &\*\*[-0.8em]\textforlabel{101}{Investment capital:}&\TextField[%
82 name=summe,width=10em,bordercolor={0.65 0.79 0.94}]{}%
83 ~\texteuro\
84 &\*\*[-0.8em]\textforlabel{102}{Zins:}&\TextField[%
85 name=zins,width=10em,bordercolor={0.65 0.79 0.94}]{}~\%
86 &\*\*[-0.8em]\textforlabel{103}{Investment time:}&%
87 \ChoiceMenu[name=zeit,popdown=true,bordercolor={0.65 0.79 0.94}%
88 ]{{1}={1},{2}={2},{3}={3},{4}={4},{5}={5},%
89 {6}={6},{7}={7},{8}={8},{9}={9},{10}={10}}~years\
90 &\*\*[-0.8em]\hline
91 \multicolumn{2}{|c|}{\*\*[-0.8em]
92 \multicolumn{2}{|c|}{\textsc{C\,a\,l\,c\,u\,l\,a\,t\,i\,o\,n}}\
93 \multicolumn{2}{|c|}{\*\*[-0.8em]
94 \multicolumn{2}{|c|}{\PushButton[name=start,%
95 onclick={doCalculation()},bordercolor={0.65 0.79 0.94},%
96 fillcolor={0.5 0.5 0.5}]{Start}}\
97 \multicolumn{2}{|c|}{\*\*[-0.8em]\hline
98 \multicolumn{2}{|c|}{\*\*[-0.8em]
99 \multicolumn{2}{|c|}{\textsc{R\,e\,s\,u\,l\,t}}\
100 \multicolumn{2}{|c|}{\*\*[-0.8em]\textforlabel{104}{%
101 Result:}&\TextField[name=ergebnis,width=10em,%
102 bordercolor={0 0 0},readonly=true]{}~\texteuro\
103 \multicolumn{2}{|c|}{\*\*[-0.8em]
104 \hline
105 \end{tabular}
106 \end{Form}
107 \end{document}

```

## 7 Form number four: using both insdljs and inputenc

The inputenc package replaces some characters – i.e. german umlauts – by L<sup>A</sup>T<sub>E</sub>X code sequences. This is a good idea for “normal” text but not for JavaScript code.

To avoid the conversion in JavaScript code the characters must not be added directly to strings, add the corresponding JavaScript-Unicode notation instead.

Table 2 contains some example Unicode notations for german umlauts and ligatures.

Table 2: JavaScript-Unicode notation for german umlauts

umlaut/ligature	JavaScript-Unicode notation
ä	\u00E4
ö	\u00F6
ü	\u00FC
À	\u00C4
Ö	\u00D6
Ü	\u00DC
ß	\u00DF

Here is an example how to use the Unicode notation (see variable *theText*):

```
1 \documentclass[ngerman,a4paper]{scrartcl}
2 \usepackage[latin1]{inputenc}
3 \usepackage{mathptmx}
4 \usepackage[scaled=.92]{helvet}
5 \usepackage{courier}
6 \usepackage[T1]{fontenc}
7 \usepackage{textcomp}
8 \renewcommand*{\familydefault}{phv}
9 \usepackage[left=25mm,top=25mm,bottom=10mm,right=10mm]{geometry}
10 \usepackage{fancyhdr}
11 \lhead{Test}\chead{}\rhead{inputenc and insdljs}
12 \lfoot{}\cfoot{}\rfoot{}
13 \pagestyle{fancy}
14 \usepackage{graphicx}
15 \usepackage{color}
16 \usepackage[
17   pdftex,a4paper=true,colorlinks=true,
18   pdftitle={insdljs und inputenc},pdfsubject={Test},
19   pdfauthor={ich},
20   pdfpagemode=UseNone,pdfstartview=FitH,
21   pagebackref,pdfhighlight={/N}
22 ]{hyperref}
23 \usepackage[pdftex]{insdljs}
24 \begin{insDLJS}[exaada]{exaada}{JavaScript auf Document Level}
25 // indicate that the function was not yet run
26 var done = 0;
27
28 // text to show when file is opened
29 var theText =
30 "Test to show \u00E4\u00F6\u00FC\u00C4\u00D6\u00DC\u00DF";
31
32 // function to run when opening the document
33 function myFirstJavaScriptFunction()
34 {
35   if(!done) {
36     done = 1;
37     app.alert(theText);
38   }
39 }
40 \end{insDLJS}
41 \OpenAction{/S /JavaScript /JS (myFirstJavaScriptFunction();)}
42 \newcommand{\textforlabel}[2]{%
```

```

43 \TextField[name={#1},value={#2},width=7em,align=2,%
44 bordercolor={1 1 1},readonly=true]{}%
45 }
46 \begin{document}
47 \section{Testing insdljs and inputenc}
48 This is a test whether insdljs and inputenc can be used combined.
49 The pop-up box should show the following german umlauts and ligatures:
50 \begin{itemize}
51 \item ä (ae)
52 \item ö (oe)
53 \item ü (ue)
54 \item Ä (Ae)
55 \item Ö (Oe)
56 \item Ü (Ue)
57 \item ß (sz)
58 \end{itemize}
59 \end{document}

```



## A History

- Version 0.9.5 (2008-02-08)  
shows how to add help using PDF annotations or tooltip texts.
- Version 0.9.4 (2007-06-20)  
contains a new section how to use the insdljs and inputenc packages together. German umlauts must not be written directly to strings in JavaScript code, the corresponding JavaScript Unicode notations must be used instead.
- Version 0.9.3 (2007-06-15)  
contains corrected options for the hyperref package.

```
1 pdfpagemode=UseNone
```

was replaced by

```
1 pdfpagemode=UseNone
```

- Version 0.9.2 (2007-06-14)  
uses other fonts than previous versions. The document preamble was derived from another document containing mathematics. As this document does not contain mathematics we do not need the packages related to mathematics.
- Version 0.9.1 (2007-06-13)  
contains corrections in the “Fonts” section.

```
1 \usepackage[T1]{fontenc}
```

does not set up L<sup>A</sup>T<sub>E</sub>X to use type-1 fonts (as stated in version 0.9.0).

Instead it changes the preferred font encoding vector to T1 instead of OT1 if type-1 fonts are used.

- Version 0.9.0  
is the first version published on CTAN.  
I’m not a native english speaker, so the english tutorial and examples may need corrections in style, spelling and grammar.  
Please feel free to contact me using the web form [http://www.fh-schmalkalden.de/url.php?/page/1026/select\\_wert/3023](http://www.fh-schmalkalden.de/url.php?/page/1026/select_wert/3023) if you have suggestions.

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## References

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