

aeb_mobile: Formatting for mobile devices

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1 `\package`

If `\ifsmartphone` is undefined, we do nothing; otherwise, if `true` we load the package, if `false` we end the package. With this, we don't need to surround the `aeb_mobile` package with `\ifsmartphone... \fi`.

2 `\@ifundefined{ifsmartphone}{\newif\ifsmartphone\smartphonetrue}{}`

1 Introduction

This is a simple package designed to format a document for a smart phone. When the option `smartphone` is taken a page 4×8 inches is created. Other definitions are made, as explained below.

3 `\package`

4 `*altpkgname`

2 Alternate package name: aeb-mobile

CTAN lists this package (aeb_mobile) as aeb-mobile, so we'll create a dummy package by that name.

```
5 \NeedsTeXFormat{LaTeX2e}
6 \ProvidesPackage{aeb-mobile}
7 [2018/04/26 v1.0 aeb-mobile Alt-name (dps)]
8 \DeclareOption*{\PassOptionsToPackage{\CurrentOption}{aeb_mobile}}
9 \ProcessOptions
10 \RequirePackage{aeb_mobile}
11 \</altpkgname>
12 \<*package>
```

3 The code

In this main body of the package, we set page dimensions, the initial view of the PDF, define a title page, define links and the JavaScript they use.

3.1 Set Package Options

smartphone First, we get the options. For the `smartphone` option we have an 4×8 inch page, with narrow side margins.

```
13 \DeclareOption{smartphone}{\ifsmartphone\AtEndOfPackage{%
14   \web@MargScrDimOpts{.25in}{.25in}{24pt}{.25in}{8in}{4in}}\fi}
```

nomaketitle The package makes a redefinition of `\makeinlinetitle` (originally defined in the web package). Using this option, the redefinition is skipped.

```
15 \newif\ifmob@maketitledefn \mob@maketitledefntrue
16 \DeclareOption{nomaketitle}{\mob@maketitledefnfalse}
```

useforms By default, links are created to Print the file and Toggle Cols, if this option is used, form buttons are used instead. The form button will be set so that it is visible but does not print. (An advantage it has over links.)

```
17 \newif\ifmob@useforms \mob@useformsfalse
18 \DeclareOption{useforms}{\mob@useformstrue}
```

scalefigures An option suggested by Mathias M. When this option is taken, graphic images are scaled according to an algorithm. See the description above the definition of `\mob@adjwidth`. The commands `\scalefiguresOn` and `\scalefiguresOff` are a convenient way to turn the scaling of figures on and off.

```
\scalefiguresOn \mob@adjwidth. The commands \scalefiguresOn and \scalefiguresOff are a
\scalefiguresOff convenient way to turn the scaling of figures on and off.
19 \newif\ifmobscalefigures \mobscalefiguresfalse
20 \newcommand{\scalefiguresOn}{\mobscalefigurestrue}
21 \newcommand{\scalefiguresOff}{\mobscalefiguresfalse}
22 \DeclareOption{scalefigures}{\mobscalefigurestrue}
23 \DeclareOption{!scalefigures}{\mobscalefiguresfalse}
24 \ProcessOptions
```

Early Stop. If `\ifsmartphone` is false, we stop here.

```
25 \ifsmartphone\else\expandafter\endinput\fi
```

We require the `web` package to set the dimensions of the page, above, and the `eforms` package to set links, defined below.

```
26 \RequirePackage{web}
27 \RequirePackage{eforms}
```

3.2 Set initial view

There seems to be a slight conflict between `aeb_pro` and `hyperref` when it comes to setting some of the preferences. If `aeb_pro` is loaded, we'll use `aeb_pro`, otherwise, we use `hyperref`.

```
28 \@ifpackageloaded{aeb_pro}{%
29   \DeclareInitView{%
30     layoutmag={pagelayout=TwoColumnLeft,mag=FitWidth},
31     windowoptions=showtitle}{%
32   \hypersetup{pdfdisplaydoctitle=true,%
33     pdfstartview=FitH -32768,pdfpagelayout=TwoColumnLeft}}
```

3.3 A title page

`\makeinlinetitle` The web defines `\makeinlinetitle`, we'll redefine it here for our convenience.

```
34 \ifmob@maketitledefn
35 \renewcommand{\makeinlinetitle}
36 {%
37   \begingroup\parskip0pt\parindent0pt
38   \par\vspace*{6pt}
39   \noindent\makebox[\linewidth][c]{\bfseries
40     \color{\webuniversity@color}\webuniversity}\par\kern6pt\noindent
41     \makebox[\linewidth][c]{\parbox[c]{.75\linewidth}{\centering
42       \bfseries\color{\webtitle@color}\webtitle}}\par\kern12pt
43     \noindent\parbox{\linewidth}{\scriptsize
44       \web@copyright\space\the\year\hfill\thewebemail\
45       \@date\hfill\ifundefined{aeb@talksite}{\webversion}
46       {\ifx\aeb@talksite\empty\webversion
47         \else\aeb@talksite\fi}}%
48   }\par
49   \noindent\makebox[\linewidth]{\rule{.67\linewidth}{.4pt}}%
50   \par\endgroup
51 }
52 \fi
```

3.4 Redefinitions of L^AT_EX commands

We redefine `\paragraph` and a key-value of `\includegraphics`

```
53 \renewcommand{\paragraph}{\edef\mob@partpgraphexp{\noexpand
54   \@startsection{paragraph}{4}{0pt}}%
```

```

55     {\ifdim\parskip=0pt12pt\else0pt\fi}}%
56     \mob@partpgraphexp{-3pt}{\bfseries}}

```

This is an implementation of an idea proposed by Mathias M. He notes that a figure that looks fine when the document is compiled for paper, is too small when compiled for the smartphone. So, he proposes to double the width of the image up to a maximum width of `\textwidth`. My implementation is to redefine the key-value command for `\includegraphics` from `graphicx`, to intercept the declared width, and modify its value according to the above description.

The scaling of figures can be turned on and off by setting the switch `\ifmobscalefigures`, as appropriate.

```

57 \def\mob@adjwidth#1{\ifmobscalefigures{\dimen0=#1
58   \dimen0=2\dimen0\relax
59   \xdef\mob@dwidth{\expandafter\the
60     \ifdim\dimen0<\textwidth
61       \dimen0 \else\textwidth\fi}%
62   }\else\gdef\mob@dwidth{#1}\fi
63 }

```

We intercept the width parameter, pass it to `\mob@adjwidth`, then use the result to define the `graphicx` command `\Gin@ewidth`.

```

64 \@ifpackageloaded{graphicx}{%
65   \define@key{Gin}{width}{\mob@adjwidth{#1}%
66     \edef\Gin@ewidth{\mob@dwidth}}%
67 }{}

```

3.5 Some JavaScript

We define two functions: (1) `_printIt()` prints the current document using the default printer in two columns; (2) `_toggleViews()` toggles the view between single column and two columns. In both case we use fit width zoom type.

```

68 \begin{insDLJS}[_mobileJS]{mobile}{JS supporting mobile formatting}
69 var _mobileJS=true
70 function _printIt(){
71   var pp=this.getPrintParams();
72   pp.pageHandling=pp.constants.handling.nUp;
73   pp.nUpPageOrder=pp.constants.nUpPageOrders.Horizontal;
74   pp.nUpNumPagesH=2;
75   pp.nUpPageBorder=false;
76   pp.nUpAutoRotate=false;
77   this.print(pp);
78 }
79 function _toggleViews() {
80   this.zoomType=zoomtype.fitW;
81   this.layout=(this.layout!="TwoColumnLeft"?%
82 "TwoColumnLeft":"OneColumn";
83 }
84 \end{insDLJS}

```

3.6 Links in running header

`\mobPrint` `\mobPrint` sets the text of the print link and the button caption if its a push button. `\mobToggleCols` sets the text for the toggle link and the button caption if its a push button. `\mobPrintTip` is the tool tip when there's a button for the print; while `\mobToggleColsTip` does the same for the toggle button.

```

85 \newcommand{\mobPrint}[1]{\def\mob@print{#1}}
86 \mobPrint{Print}
87 \newcommand{\mobPrintTip}{Click to print this document in two-column
88   format, recommended.}
89 \newcommand{\mobToggleCols}[1]{\def\mob@toggleCols{#1}}
90 \mobToggleCols{Toggle Cols}
91 \newcommand{\mobToggleColsTip}{Click to toggle between single-column
92   and two-column page layouts.}
  
```

German language. The following are redefinitions supplied by a user in the German language.

```

\mobPrint{Drucken}
\renewcommand{\mobPrintTip}{Zum Drucken des Dokumentes hier klicken
  (zweispaltige Ansicht empfehlenswert).}
\mobToggleCols{Spaltenansicht umschalten}
\renewcommand{\mobToggleColsTip}{Zum Umschalten der Spaltenansicht
  (einspaltig oder zweispaltig) hier klicken.}

\mobFormPresets \mobFormPresets is used to set the appearance of the buttons when the useforms
option is taken.


```

93 \newcommand{\mobFormPresets}[1]{%
94 \def\mob@FormPresets{#1}}
95 \mobFormPresets{\S\S\BC}\textSize{8}\autoCenter{n}}

```



\mobPrintIt \mobTwoCols The commands \mobPrintIt sets the print link, while \mobTwoCols does the
some for toggling. Each call their respective document level JS. They each have
one optional parameter that is use to modify its appearance.


```

96 \newcommand{\mobPrintIt}[1] []{%
97 \ifmob@useforms
98 {\footnotesize\def\ef@btnspcr{%
99 \settoheight{\@tempdima}{\strut}%
100 \settodepth{\@tempdimb}{\strut}%
101 \addtolength{\@tempdima}{\@tempdimb}%
102 \raisebox{-\@tempdimb}{\pushButton[#1\F{-\FPrint}
103 \TU{\mobPrintTip}
104 \presets{\mob@FormPresets}%
105 \CA{\mob@print}\A{JS{ _printIt() ;}}%
106]{\mobPrintIt}{\@tempdima}}\else
107 \setLink[#1\A{JS{ _printIt() ;}}]{\mob@print}\fi
108 }
109 \newcommand{\mobTwoCols}[1] []{%
110 \ifmob@useforms

```


```

```

111     {\footnotesize\def\ef@btnspcr{}}%
112     \settoheight{\@tempdima}{\strut}%
113     \settodepth{\@tempdimb}{\strut}%
114     \addtolength{\@tempdima}{\@tempdimb}%
115     \raisebox{-\@tempdimb}{\pushButton[#1\F{-\FPrint}
116     \TU{\mobToggleColsTip}\presets{\mob@FormPresets}%
117     \CA{\mob@toggleCols}\A{\JS{toggleViews();}}%
118     ]{\mobToggleCols}{\@tempdima}}\else
119     \setLink[#1\A{\JS{toggleViews();}}]{\mob@toggleCols}\fi
120 }

```

Here, we set the left header. If you want to change the appearance of the links, you need to execute this next line in the preamble with the optional parameter to change the appearances. This assumes the document is using the page style `webheadings`, as defined in `web`.

```

121 \lheader{\mobPrintIt\relax\ifmob@useforms\kern3bp
122     \else\,\/, \fi\mobTwoCols\relax}

```

3.7 Add a page if odd

`\generateEvenPage` adds one more page to make an even number of pages. May be redefined as needed.

```

123 \newcommand{\generateEvenPage}{\ifodd\value{page}\else
124     \newpage\lheader{} \null\fi}
125 \AtEndDocument{\generateEvenPage}
126 \end{package}

```

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Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in *roman* refer to the code lines where the entry is used.

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5 Change History

v1.1 (2012/06/26)		v1.2 (2012/06/28)	
General: Added a check for <code>\ifsmartphone</code>	1	General: Added conditional <code>\ifmobscalefigures</code>	4
added early <code>\endinput</code>	3	<code>scalefigures</code> : Added <code>scalefigures</code> and	
Added the <code>\mob@adjwidth</code> command to adjust		<code>scalefigures</code>	2
the width of a graphic	4	v1.3 (2018/04/26)	
		General: Added dummy package <code>aeb-mobile</code>	2