Online Reading: two-column landscape format using KOMA-scripts

Daniel D. Ferrante*

2013-Oct-21

Contents

1 Original Motivation

The original motivation came from "*Advocating two-column landscape format for scholarly online articles*".

However, because of typographical issues, among some other, I personally prefer to use the KOMA-scripts. Thus, I just wrote a LaTeX template that suited me better.

2 Text Example: *Lorem Ipsum* and the Balancing of Columns

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu

neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

Quisque ullamcorper placerat ipsum. Cras nibh. Morbi vel justo vitae lacus tincidunt ultrices. Lorem ipsum dolor sit amet, consectetuer adipiscing elit. In hac habitasse platea dictumst. Integer tempus convallis augue. Etiam facilisis. Nunc elementum fermentum wisi. Aenean placerat. Ut imperdiet, enim sed gravida sollicitudin, felis odio placerat quam, ac pulvinar elit purus eget enim. Nunc vitae tortor. Proin tempus nibh sit amet nisl. Vivamus quis tortor vitae risus porta vehicula.

Fusce mauris. Vestibulum luctus nibh at lectus. Sed bibendum, nulla a faucibus semper, leo velit ultricies tellus, ac venenatis arcu wisi vel nisl. Vestibulum diam. Aliquam pellentesque, augue quis sagittis posuere, turpis lacus congue quam, in hendrerit risus eros eget felis. Maecenas eget erat in sapien mattis porttitor. Vestibulum porttitor. Nulla facilisi. Sed a turpis eu lacus commodo facilisis. Morbi fringilla, wisi in dignissim interdum, justo lectus sagittis dui, et vehicula libero dui cursus dui. Mauris tempor ligula sed lacus. Duis cursus enim ut augue. Cras ac magna. Cras nulla. Nulla egestas. Curabitur a leo. Quisque egestas wisi eget nunc. Nam feugiat lacus vel est. Curabitur consectetuer.

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

Sed commodo posuere pede. Mauris ut est. Ut quis purus. Sed ac odio. Sed vehicula hendrerit sem. Duis non odio. Morbi ut dui. Sed accumsan risus eget odio. In hac habitasse platea dictumst. Pellentesque non elit. Fusce sed justo eu urna porta tincidunt. Mauris felis odio, sollicitudin sed, volutpat a, ornare

ac, erat. Morbi quis dolor. Donec pellentesque, erat ac sagittis semper, nunc dui lobortis purus, quis congue purus metus ultricies tellus. Proin et quam. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos hymenaeos. Praesent sapien turpis, fermentum vel, eleifend faucibus, vehicula eu, lacus.

3 Multimedia Example: 3D Object and Control Toolbar

(brain.u3d)

4 Some Itemized Equations for Good Measure, and Some Mathematical Fonts

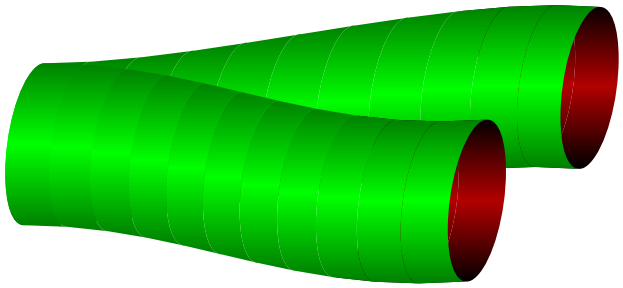
Before we proceed and show the code used to generate this file, let us create a list with some equations, just to see how things turn out:

- Let us open up the first item in a very cliché fashion with an inline equation: $E^2 = (m\,c^2)^2 + (p\,c)^2 \rightsquigarrow (\Box + m^2)\,\psi = 0$.
- Now we can move on to something more interesting, *e.g.*,

$$\mathscr{Z}(J) = \int e^{i\,S(\phi,J)}\,\mathcal{D}\phi\ ;$$

$$\mathcal{Z}_{\mathbb{M}}[\mathfrak{J}] = \int\limits_{\mathbb{M}} e^{i\,S[\mathbf{\Phi};\mathfrak{J}]}\,\mathcal{D}\mathbf{\Phi}\ .$$

5 Ti*k*Z/PGF Example



6 Code Used to Generate this File

To compile this file you just need to run `pdflatex` on it as many times as necessary. Also, note that the order of some of the packages is important, for example, `hyperref` should be loaded before `bookmark`. Lastly, in order to access and make use of the multimedia file embedded, you need to use the Adobe Acrobat Reader, for it seems to be the only one that implemented such features.

```
%%%
% BeGiN
% Wed 19 Jun 2013 14:06:02 EDT
%%%
%% Presentation make-shift "class"...
% The paper and font size are chosen as with the 'Beamer' document
% class :: these sizes can be adjusted for various projector
% capabilities, including:
%   (*) 144mm:90mm (16:10),
%   (*) 120mm:96mm (16:9),
%   (*) 160mm:90mm (HDTV 720p/i),
%   (*) 192mm:108mm (HDTV 1080p/i), &
%   (*) 128mm:96mm (Beamer's default).
%   (*) 216mm:279mm (ANSI A papersize, aka 'letter')
\documentclass[       %
  paper=279mm:216mm,  % 'letter' size paper, landscape mode
  fontsize=12pt,      % 12pt font selection
  twoside,
  pagesize=auto,           % write page size to dvi or pdf
  version=last,
  numbers=noendperiod,% removes points for special parts (e.g. appendix)
  captions=nooneline, % do not distinguish between one or more lines in captions
  DIV=calc
]{scrartcl}
\usepackage{scrpage2}
\setkomafont{pagehead}{\normalfont\footnotesize\sffamily\bfseries}
\setkomafont{pagenumber}{\normalfont\footnotesize\sffamily\bfseries}
\deftripstyle{CPI}[0pt][0.5pt]{\rightmark}{}{\thepage}{}{}{}
\pagestyle{CPI}
\typearea[current]{calc}
\areaset[current]{\textwidth}{\textheight}
\usepackage{multicol}   % better column-balancing
\setlength{\columnsep}{1cm}
\setlength{\columnseprule}{0.4pt}
\setlength{\topmargin}{-2cm}
\setlength{\oddsidemargin}{0cm}
\setlength{\evensidemargin}{\oddsidemargin}
%
\usepackage{cmap}
\usepackage{datetime}
\renewcommand{\dateseparator}{-}
\settimeformat{hhmmsstime}
\newcommand{\todayiso}{\the\year \dateseparator \shortmonthname \dateseparator \twodigit\day}
\newcommand{\semver}{[DDF \href{http://semver.org/}{v1.0.0}]}
\usepackage{ae,aecompl,aeguill}
\usepackage{fix-cm}
\usepackage{lmodern}         % latin modern font
\usepackage[T1]{fontenc} % for correct hyphenation and T1 encoding
\usepackage[protrusion=true,expansion=false]{microtype} % for character protrusion and font expansion (only with pdflatex)
```

```
\usepackage[raise]{engord}
\usepackage{ucs}
\usepackage[utf8x]{inputenc}
\usepackage[x11names]{xcolor}
\usepackage{graphicx}
\usepackage{csquotes} % for inline quotations
\usepackage{ccicons}  % for CC licenses
\usepackage{tikz}     % sophisticated graphics package
\usepackage{mathtools}
\usepackage{dsfont,amstext,amssymb,amsbsy,amsopn,amsthm}
\usepackage[charter]{mathdesign}
\renewcommand{\sfdefault}{fvs}
\renewcommand{\ttdefault}{fvm}
\DeclareMathAlphabet{\mathpzc}{T1}{pzc}{m}{it}   % $\mathpzc{F}$
% \usepackage{bm}       % for bold math symbols
\usepackage{eucal}
\usepackage{empheq}
\usepackage{pifont}
\usepackage{textcomp}
\usepackage{wasysym}
\usepackage{calc}  % working with lengths, counters etc.
\usepackage[       %
  includeheadfoot, %
  vmargin=1cm,     %
  hmargin=2cm      %
]{geometry}        % set page layout parameters
\usepackage[3D]{movie15}
\usepackage{xkeyval}
\usepackage{lipsum}     % just some lorem-ipsum text filling
\usepackage{fancyvrb}
\usepackage[colorlinks=true,urlcolor=RoyalBlue3,linkcolor=OrangeRed3,citecolor=SpringGreen3,linktocpage=true]{hyperref}
\hypersetup{
  pdftitle    = {Digital Reading: two-column landscape format using KOMA scripts},
  pdfauthor   = {D.D. Ferrante <danieldf@het.brown.edu>},
  pdfsubject  = {eReading},
  pdfcreator  = {LaTeX2e with hyperref package},
  pdfproducer = {pdflatex},
  pdfkeywords = {Open Access, Open, Access, eReader, Digital, Reading, Online, LaTeX, KOMA},
  pdfview = {FitH},
  pdflang = {en_US}
}
\usepackage{bookmark}
\usepackage{cite}
%
%% extensible '=' sign ::  \stakrel{\text{definition}}{\hbox{\equalsfill}}
\makeatletter
\def\equalsfill{$\m@th\mathord=\mkern-7mu
  \cleaders\hbox{$\!\mathord=\!$}\hfill
  \mkern-7mu\mathord=$}
\makeatother
%% Hooked Square Root sign...
\def\hksqrt{\mathpalette\DHLhksqrt}
\def\DHLhksqrt#1#2{\setbox0=\hbox{$#1\sqrt{#2\,}$}\dimen0=\ht0
  \advance\dimen0-0.2\ht0
  \setbox2=\hbox{\vrule height\ht0 depth -\dimen0}%
{\box0\lower0.4pt\box2}}
%
\title{Online Reading: two-column landscape format using KOMA-scripts}
\author{\sffamily Daniel D. Ferrante\footnote{
  \href{http://www.het.brown.edu/people/danieldf/}{\copyright}\; \semver\,,\;
  \href{http://creativecommons.org/licenses/by-nc-sa/3.0/}{\ccbyncsa}\,.}}
\date{\sffamily\todayiso}
%
%%
\begin{document}
%
\maketitle
%
\begin{multicols}{2}
  \tableofcontents


  \section{Original Motivation}
  The original motivation came from
  ''\href{http://scholardox.wordpress.com/2013/05/29/two-column-landscape-should-be-the-standard-format-of-scholarly-online-a
    {\emph{Advocating two-column landscape format for scholarly online articles}}''.

  However, because of typographical issues, among some other, I personally prefer
  to use the \href{http://www.ctan.org/pkg/koma-script}{KOMA-scripts}. Thus, I
  just wrote a \LaTeX\/ template that suited me better.


  \section{Text Example: \textit{Lorem Ipsum} and the Balancing of Columns}

  \lipsum


  \section{Multimedia Example: 3D Object and Control Toolbar}

  \includemovie[     %
    poster,          %
    toolbar,         % same as 'controls'
    label=brain.u3d, %
    text=(brain.u3d),%
    3Daac=60.000000, 3Droll=0.000000, 3Dc2c=-143.000000 -703.200012 -255.500000, 3Droo=761.721436, %
    3Dcoo=-143.000000 101.000000 255.500000, 3Dlights=CAD %
  ]{\linewidth}{\linewidth}{brain.u3d}


  \section{Some Itemized Equations for Good Measure, and Some Mathematical Fonts}

  Before we proceed and show the code used to generate this file, let us create
  a list with some equations, just to see how things turn out:
  \begin{itemize}
  \item Let us open up the first item in a very cliché fashion with an inline
    equation: $E^2 = (m\, c^2)^2 + (p\, c)^2 \rightsquigarrow (\Box + m^2)\, \psi = 0$.
  \item Now we can move on to something more interesting, \emph{e.g.},
    \begin{align*}
      \mathscr{Z}(J) &= \int e^{i\, S(\phi,\, J)}\, \mathcal{D}\phi \;;\\
      \mathpzc{Z}{}_{\mathds{M}}[\mathfrak{J}]&= \varint_{\mathds{M}}
        e^{i\, S[\boldsymbol{\Phi};\, \mathfrak{J}]}\, \mathpzc{D}\boldsymbol{\Phi}\;.
    \end{align*}
  \end{itemize}


  \section{Ti\emph{k}Z/PGF Example}

\begin{center}
\begin{tikzpicture}[scale=1]
\foreach \t in {0,0.1,...,.8} {
\pgfmathsetmacro\x{6*\t^3 + 4 * 3 * \t^2*(1 - \t) + 2 * 3 * \t * (1 -\t)^2 + 0 * (1 - \t)^3}
\pgfmathsetmacro\z{1*\t^3 + 1 * 3 * \t^2*(1 - \t) + -1 * 3 * \t * (1 -\t)^2 + -1 * (1 - \t)^3 + 2}
\pgfmathsetmacro\tt{\t+.1}
\pgfmathsetmacro\xx{6*\tt^3 + 4 * 3 * \tt^2*(1 - \tt) + 2 * 3 * \tt * (1 -\tt)^2 + 0 * (1 - \tt)^3}
\pgfmathsetmacro\zz{1*\tt^3 + 1 * 3 * \tt^2*(1 - \tt) + -1 * 3 * \tt * (1 -\tt)^2 + -1 * (1 - \tt)^3 + 2}
% If second control is relative, it is relative to second end point!
\path[shade=axis, top color=green!50!black, bottom color=green!50!black, middle color=green]
 (\xx,0,-\zz)
 .. controls +(0,-.417,0) and +(0,.155,.387) ..
 ++(0,-0.928,-0.629)
 -- (\x, -0.928,-\z-.629)
 .. controls +(0,.155,.387) and +(0,-.417,0) ..
```

```
 ++(0,.928,.629)
 .. controls +(0,.555,0) and +(0,0,.555) ..
 ++(0,1,-1)
 .. controls +(0,0,-.139) and +(0,.0516,.129) ..
 ++(0,-.072,-.371)
 -- (\xx,0.928,-\zz-2+.629)
 .. controls +(0,.0516,.129) and +(0,0,-.139) ..
 ++(0,.072,.371)
 .. controls +(0,0,.555) and +(0,.555,0) ..
 ++(0,-1,1);

\pgfmathsetmacro{\zz}{-\zz+2}
\pgfmathsetmacro{\z}{-\z+2}
\path[shade=axis, top color=green!50!black, bottom color=green!50!black, middle color=green]
 (\xx,0,-\zz)
 .. controls +(0,-.417,0) and +(0,.155,.387) ..
 ++(0,-0.928,-0.629)
 -- (\x, -0.928,-\z-.629)
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 ++(0,.928,.629)
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 ++(0,1,-1)
 .. controls +(0,0,-.139) and +(0,.0516,.129) ..
 ++(0,-.072,-.371)
 -- (\xx,0.928,-\zz-2+.629)
 .. controls +(0,.0516,.129) and +(0,0,-.139) ..
 ++(0,.072,.371)
 .. controls +(0,0,.555) and +(0,.555,0) ..
 ++(0,-1,1);
}
\foreach \t in {0.8,0.9,...,1} {
\pgfmathsetmacro\x{6*\t^3 + 4 * 3 * \t^2*(1 - \t) + 2 * 3 * \t * (1 -\t)^2 + 0 * (1 - \t)^3}
\pgfmathsetmacro\z{1*\t^3 + 1 * 3 * \t^2*(1 - \t) + -1 * 3 * \t * (1 -\t)^2 + -1 * (1 - \t)^3 + 2}
\pgfmathsetmacro\tt{\t+.1}
\pgfmathsetmacro\xx{6*\tt^3 + 4 * 3 * \tt^2*(1 - \tt) + 2 * 3 * \tt * (1 -\tt)^2 + 0 * (1 - \tt)^3}
\pgfmathsetmacro\zz{1*\tt^3 + 1 * 3 * \tt^2*(1 - \tt) + -1 * 3 * \tt * (1 -\tt)^2 + -1 * (1 - \tt)^3 + 2}
%\path[shade=axis, top color=red, bottom color=black]
% If second control is relative, it is relative to second end point!
\path[shade=axis, top color=black, bottom color=black, middle color=red!70!black]
 (\xx,0,-\zz-2)
 .. controls +(0,-.555,0) and +(0,0,-.555) ..
 ++(0,-1,1)
 .. controls +(0,0,.139) and +(0,-.0516,-.129) ..
 ++(0,.072,.371)
 -- (\x,-0.928,-\z-.629)
 .. controls +(0,-.0516,-.129) and +(0,0,.139) ..
 ++(0,-.072,-.371)
 .. controls +(0,0,-.555) and +(0,-.555,0) ..
 ++(0,1,-1)
 .. controls +(0,+.417,0) and +(0,-.155,-.387) ..
 ++(0,+0.928,+0.629)
 -- (\xx, +0.928,-\zz-2+.629)
 .. controls +(0,-.155,-.387) and +(0,.417,0) ..
 ++(0,-.928,-.629)
 -- (\xx,0,-\zz-2);
\path[shade=axis, top color=green!50!black, bottom color=green!50!black, middle color=green]
 (\xx,0,-\zz)
 .. controls +(0,-.417,0) and +(0,.155,.387) ..
 ++(0,-0.928,-0.629)
 -- (\x, -0.928,-\z-.629)
 .. controls +(0,.155,.387) and +(0,-.417,0) ..
 ++(0,.928,.629)
 .. controls +(0,.555,0) and +(0,0,.555) ..
 ++(0,1,-1)
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 .. controls +(0,0,.555) and +(0,.555,0) ..
 ++(0,-1,1);

\pgfmathsetmacro{\zz}{-\zz+2}
\pgfmathsetmacro{\z}{-\z+2}
% If second control is relative, it is relative to second end point!
\path[shade=axis, top color=black, bottom color=black, middle color=red!70!black]
 (\xx,0,-\zz-2)
 .. controls +(0,-.555,0) and +(0,0,-.555) ..
 ++(0,-1,1)
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 ++(0,.072,.371)
 -- (\x,-0.928,-\z-.629)
 .. controls +(0,-.0516,-.129) and +(0,0,.139) ..
 ++(0,-.072,-.371)
 .. controls +(0,0,-.555) and +(0,-.555,0) ..
 ++(0,1,-1)
 .. controls +(0,+.417,0) and +(0,-.155,-.387) ..
 ++(0,+0.928,+0.629)
 -- (\xx, +0.928,-\zz-2+.629)
 .. controls +(0,-.155,-.387) and +(0,.417,0) ..
 ++(0,-.928,-.629)
 -- (\xx,0,-\zz-2);
\path[shade=axis, top color=green!50!black, bottom color=green!50!black, middle color=green]
 (\xx,0,-\zz)
 .. controls +(0,-.417,0) and +(0,.155,.387) ..
 ++(0,-0.928,-0.629)
 -- (\x, -0.928,-\z-.629)
 .. controls +(0,.155,.387) and +(0,-.417,0) ..
 ++(0,.928,.629)
 .. controls +(0,.555,0) and +(0,0,.555) ..
 ++(0,1,-1)
 .. controls +(0,0,-.139) and +(0,.0516,.129) ..
 ++(0,-.072,-.371)
 -- (\xx,0.928,-\zz-2+.629)
 .. controls +(0,.0516,.129) and +(0,0,-.139) ..
 ++(0,.072,.371)
 .. controls +(0,0,.555) and +(0,.555,0) ..
 ++(0,-1,1);
}
\end{tikzpicture}
\end{center}


  \section{Code Used to Generate this File}

  To compile this file you just need to run \texttt{pdflatex} on it as many
  times as necessary. Also, note that the order of some of the packages is
  important, for example, \texttt{hyperref} should be loaded before
  \texttt{bookmark}. Lastly, in order to access and make use of the multimedia
  file embedded, you need to use the \href{http://get.adobe.com/reader/}
  {Adobe Acrobat Reader}, for it seems to be the only one that implemented such
  features.

  \fvset{fontsize=\tiny,numbers=left,numbersep=2pt}
  \VerbatimInput{brain.tex}
\end{multicols}
%
%
\end{document}
%%%
% eNd
%%%

```