

LaTeX::Table

Markus Riester

October 1, 2008

Abstract

L^AT_EX::TABLE is a Perl module that provides functionality for an intuitive and easy generation of LaTeX tables. It ships with some predefined good looking table styles. This module supports multipage tables via the **x_{tab}** package and publication quality tables with the **book_{tabs}** package. It also supports the **tab_{ularx}** package for nicer fixed-width tables. Furthermore, it supports the **col_{ortbl}** package for colored tables optimized for presentations.

1 Installation

You can install it with the **cpan** command.

```
$ cpan LaTeX::Table
```

Alternatively, download it from <http://search.cpan.org/dist/LaTeX-Table/> and install it manually:

```
$ tar xvfz LaTeX-Table-VERSION.tar.gz
$ perl Build.PL
$ ./Build test
$ ./Build install
```

2 Examples

2.1 Large Columns

The first basic example is a small table with two larger columns. LaTeX::Table automatically sets the column to `p{5cm}` when a cell in a column has more than 30 characters. L^AT_EX generates the nice Table 1.

```
my $header = [ [ 'Character', 'Fullname', 'Voice' ], ];
my $data = [
  [ 'Homer', 'Homer Jay Simpson', 'Dan Castellaneta', ],
  [ 'Marge', 'Marjorie Simpson (n e Bouvier)', 'Julie Kavner', ],
  [ 'Bart', 'Bartholomew Jojo Simpson', 'Nancy Cartwright', ],
  [ 'Lisa', 'Elizabeth Marie Simpson', 'Yeardley Smith', ],
  [ 'Maggie',
    'Margaret Simpson',
    'Elizabeth Taylor, Nancy Cartwright, James Earl Jones,'
    . 'Yeardley Smith, Harry Shearer',
  ],
];
$table = LaTeX::Table->new(
  {
    header => $header,
    data => $data,
    label => 'wrap1',
    caption => 'LaTeX paragraph column attribute.',
  }
);
```

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeadley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones, Yeadley Smith, Harry Shearer

Table 1: LaTeX paragraph column attribute.

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeadley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones, Yeadley Smith, Harry Shearer

Table 2: tabularx X column attribute.

We can use the `tabularx` package to find better column widths than the default 5cm. See Table 2 for the results.

```
$table = LaTeX::Table->new(
  {
    header => $header,
    data   => $data,
    label  => 'wrap2',
    width  => '0.9\textwidth',
    width_environment => 'tabularx',
    caption => 'tabularx X column attribute.',
  }
);
```

2.2 Table rotate

Table 3 demonstrates the table sideways feature. Requires the `rotating` package.

```
$table = LaTeX::Table->new(
  {
    header => $header,
    data   => $data,
    label  => 'rotate',
    width  => '0.9\textwidth',
    width_environment => 'tabularx',
    environment => 'sidewaystable',
    caption => 'tabularx X column attribute.',
  }
);
```

```
    }
);
```

2.3 Table resize

In Tables 4 and 5, the `resizebox` feature was used to get the desired width (and height in the second example). Requires the **graphicx** package.

```
$table = LaTeX::Table->new(
  {   header      => $header ,
      data        => $data ,
      label       => 'resize' ,
      resizebox   => [ '0.6\textwidth' ],
      caption     =>
        'scaled to 0.6\textwidth with a resizebox (graphicx package)',
  }
);

$table->set_resizebox([ '300pt' , '120pt' ]);
```

2.4 Table width, tabular* environment

Table 6 demonstrates a fixed-width table in the **tabular*** environment. Here, the space between the columns is filled with spaces.

```
$table = LaTeX::Table->new(
  {   header      => $header ,
      data        => $data ,
      label       => 'width' ,
      width       => '0.7\textwidth' ,
      caption     => '0.7 of textwidth' ,
  }
);
```

2.5 Callback functions

Callback functions are an easy way of formatting the cells. Note that the prices for Gnat are rounded in the following tables.

```
my $header = [
  [ Item:2c , ],
  [ \cmidrule(r){1-2} ],
  [ Animal , Description , Price ]
];

my $data = [
  [ Gnat , per gram , 13.651 ],
  [ , each , 0.012 ],
  [ Gnu , stuffed , 92.59 ],
  [ Emu , stuffed , 33.33 ],
  [ Armadillo , frozen , 8.99 ]
];
```

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeardley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones, Yeardley Smith, Harry Shearer

Table 3: tabularx X column attribute.

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeadley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones, Yeadley Smith, Harry Shearer

Table 4: scaled to 60% of the text width

Character	Fullname	Voice
Homer	Homer Jay Simpson	Dan Castellaneta
Marge	Marjorie Simpson (ne Bouvier)	Julie Kavner
Bart	Bartholomew Jojo Simpson	Nancy Cartwright
Lisa	Elizabeth Marie Simpson	Yeadley Smith
Maggie	Margaret Simpson	Elizabeth Taylor, Nancy Cartwright, James Earl Jones, Yeadley Smith, Harry Shearer

Table 5: scaled to a size of 300pt x 120pt

Animal	Description	Price
Gnat	per gram	13.651
	each	0.012
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 6: 0.7 of textwidth

```

my $table = LaTeX::Table->new(
  {
    filename    =>  prices.tex  ,
    maincaption =>  Price List  ,
    caption     =>  Try our special offer today!  ,
    label       =>  table:prices  ,
    position    =>  htb  ,
    header      => $header ,
    data        => $data ,
    callback    => sub {
      my ($row, $col, $value, $is_header) = @_;
      if ($col == 2 && !$is_header) {
        $value = format_price($value, 2,      );
      }
      return $value;
    },
  });

```

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 7: Price List. Try our special offer today!

2.6 Top Captions

Tables can be placed on top of the tables with `caption_top => 1`. See Table 8. Note that the standard L^AT_EX macros are optimized for bottom captions. Use something like

```
\usepackage[tableposition=top]{caption}
```

to fix the spacing. Alternatively, you could fix the spacing by yourself by providing your own command(s) (Table 9):

```

$table->set_caption_top(
'\setlength{\abovecaptionskip}{0pt}\setlength{\belowcaptionskip}{10pt}\caption'
);

```

2.7 Custom Themes

Table 10 displays our example table with the *NYC* theme, which is meant for presentations (with L^AT_EX Beamer for example). You can change the theme by copying it, changing it and then storing it in `custom.themes`. Admire the resulting Table 11.

Table 8: Try our special offer today!

ITEM		
ANIMAL	DESCRIPTION	PRICE
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 9: Try our special offer today!

ITEM		
ANIMAL	DESCRIPTION	PRICE
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

```

my $nyc_theme = $table->get_available_themes->{'NYC'};
$nyc_theme->{'DEFINE.COLORS'} =
    '\definecolor{latextablegreen}{RGB}{93,127,114}';
$nyc_theme->{'HEADER.BG.COLOR'} = 'latextablegreen';
$nyc_theme->{'DATA.BG.COLOR.ODD'} = 'latextablegreen!25';
$nyc_theme->{'DATA.BG.COLOR.EVEN'} = 'latextablegreen!10';

$table->set_custom_themes({ CENTRALPARK => $nyc_theme });
$table->set_theme('CENTRALPARK');

```

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 10: Try our special offer today!

2.8 Multicolumns

If you want tables with vertical lines (are you sure?) you should use our shortcut to generate them. They are not only much less typing work, but they also automatically add the vertical lines, see Table 12.

```
$header = [ [ 'A:3c' ] , [ 'A:2c', 'B' ] , [ 'A', 'B', 'C' ] , ];
```

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 11: Try our special offer today!

A		
A	B	C
1	w	x
2	c	

Table 12: Multicolumns made easy ...

```
$data = [ [ '1', 'w', 'x' ], [ '2', 'c:2c' ], ];

$stable = LaTeX::Table->new(
    {   header      => $header ,
        data        => $data ,
        theme       => 'Dresden' ,
    }
);
```

2.9 Headers

If you don't need headers, just leave them undefined (see Table 13). If you want that the first column looks like a header, you can define this with the `columns_like_header` Option (Table 14 and Table 15). You can also rotate the header columns by 90 degrees (Table 16) with `header_sideways`. If you do not want to rotate all header cells, use a callback function instead (Table 17).

```
$stable = LaTeX::Table->new(
    {
        caption      => 'Headers are not mandatory',
        label        => 'table:noheader',
        data         => $data ,
    }
);
```

Gnat	per gram	13.651
	each	0.012
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 13: Headers are not mandatory

Gnat	per gram	13.651
	each	0.012
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 14: We can format columns with the theme header definition

A		
A	B	C
Gnat	per gram	13.651
	each	0.012
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 15: We can format columns with the theme header definition

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9.00					
10.00					
11.00					
12.00					

Table 16: Header sideways

Time	Monday	Tuesday	Wednesday	Thursday	Friday
9.00					
10.00					
11.00					
12.00					

Table 17: Header sideways

3 Version

Generated with LaTeX::Table Version 0.9.4

A Themes

For each theme, two example tables are shown, one of type *std*, the standard L^AT_EX table, and one of type *xtab*. Note that the first and second column is left justified because these columns contain only strings, whereas the third column is a number column and therefore right justified.

A.1 Berlin Theme

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 18: **Price List.** Try our special offer today!

Table 19: **Price List.** Try our special offer today!

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Continued on next page		

Table 19: Continued from previous page

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

A.2 Dresden Theme

Item		Price
Animal	Description	
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 20: **Price List.** Try our special offer today!

Table 21: **Price List.** Try our special offer today!

Item		Price
Animal	Description	
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
Continued on next page		

Table 21: Continued from previous page

Item		
Animal	Description	Price
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

A.3 Houston Theme

Item		Price
Animal	Description	
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 22: **Price List.** Try our special offer today!

Table 23: **Price List.** Try our special offer today!

Item		Price
Animal	Description	
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Continued on next page		

Table 23: Continued from previous page

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

A.4 Miami Theme

Item		Price
Animal	Description	
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 24: **Price List.** Try our special offer today!

Table 25: **Price List.** Try our special offer today!

Item		Price
Animal	Description	
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01

Continued on next page

Table 25: Continued from previous page

Item		
Animal	Description	Price
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

A.5 NYC Theme

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 26: Price List. Try our special offer today!

Table 27: Price List. Try our special offer today!

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
Continued on next page		

Table 27: Continued from previous page

Item		
Animal	Description	Price
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

A.6 Paris Theme

Item		Price
Animal	Description	
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 28: **Price List.** Try our special offer today!

Table 29: **Price List.** Try our special offer today!

Item		Price
Animal	Description	
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
Continued on next page		

Table 29: Continued from previous page

Item		
Animal	Description	Price
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

A.7 Zurich Theme

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 30: Price List. Try our special offer today!

Table 31: Price List. Try our special offer today!

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Continued on next page		

Table 31: Continued from previous page

Item		
Animal	Description	Price
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

A.8 plain Theme

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99

Table 32: Price List. Try our special offer today!

Table 33: Price List. Try our special offer today!

Item		
Animal	Description	Price
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01

Continued on next page

Table 33: Continued from previous page

Item		
Animal	Description	Price
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.59
Emu	stuffed	33.33
Armadillo	frozen	8.99