

The l3charts package

Éric BURGHARD

2022/08/01

<https://git.itsufficient.me/latex/l3charts>

Abstract

This package defines a few simple TikZ charts that can be drawn using \LaTeX environments. This has mainly been developed as an experimentation of `exp\l3` for checking what \LaTeX 3 really brought to facilitate package development (expansion control, seq, prop, keys, int, bool, fp, dim, msg, ...).

Contents

| | | |
|----------|---------------------------------|-----------|
| 1 | About this documentation | 3 |
| 2 | Motivation | 3 |
| 3 | Kiviat chart | 3 |
| 3.1 | Usage | 3 |
| 3.1.1 | Dimensions | 3 |
| 3.1.2 | Set | 4 |
| 3.2 | Examples | 5 |
| 3.2.1 | Simple | 5 |
| 3.2.2 | Multi-set | 6 |
| 3.3 | To do | 6 |
| 4 | Ball chart | 7 |
| 4.1 | Usage | 7 |
| 4.2 | Examples | 7 |
| 4.2.1 | Simple | 8 |
| 4.2.2 | Delimited | 8 |
| 5 | Bar chart | 8 |
| 5.1 | Usage | 8 |
| 5.2 | Examples | 9 |
| 5.2.1 | Simple | 9 |
| 5.2.2 | Gauge | 10 |
| 6 | Bubble chart | 10 |
| 6.1 | Usage | 10 |
| 6.2 | Examples | 11 |
| 6.2.1 | Horizontal | 11 |
| 6.2.2 | Vertical | 12 |
| 7 | Radial chart | 12 |
| 7.1 | Usage | 12 |
| 7.2 | Examples | 13 |
| 7.2.1 | Horizontal | 13 |
| 7.2.2 | Vertical | 13 |
| 8 | Arc chart | 13 |
| 8.1 | Usage | 14 |
| 8.2 | Examples | 14 |
| 8.2.1 | Simple | 14 |
| 8.2.2 | Colorful | 15 |

| | | |
|-----------|--------------------|-----------|
| 9 | Macros | 15 |
| 9.1 | Package | 15 |
| 9.2 | Examples | 15 |
| 10 | Index | 16 |
| 11 | Changes | 17 |

1 About this documentation

I doubt that \LaTeX will have one day a modern documentation system as powerful as **cargo doc** due to its typeless and syntaxless nature. In my opinion \LaTeX literate programming with **docstrip** is just an ugly hack that turns the code and the documentation unmaintainable, and it's probably the component of \LaTeX which aged the most.

So I chose to write the documentation separately and borrowed much of the style from the **microtype** package which by the way (if you are still curious about it), pushes the **docstrip** mastery to a *black magic* level.

2 Motivation

This package has been developed mainly to typeset a fancy résumé but perhaps it could be used in other contexts too. I didn't want to write *TikZ* charts directly in the document as it would have turned a simple typesetting file in an unreadable document, and I would have forgotten every details after just a few months.

I wouldn't have the patience to develop this with \LaTeX or \TeX either, but I was curious enough about **expl3** to try an implementation. You should probably take this package as a rough tutorial on how to develop with **expl3** because it uses nearly all the types defined in the reference documentation (expansion control, seq, prop, keys, int, bool, fp, dim, msg, ...) in straightforward ways.

\TeX will always be that dusty tech you can't ignore because but there are so many (unmatched) packages coming from academic circles, but **expl3** gives a touch of modernity and facilitates a lot package development by allowing to easily bridge \TeX packages (here \LaTeX and *TikZ*).

3 Kiviat chart

3.1 Usage

The **kiviat chart** or *radar chart* allows to represent one or several set along several dimensions.

| | | |
|----------------------------------|--|-------|
| <code>\begin{kiviatchart}</code> | Environment that hold a kiviat chart. Accepts an optional argument [<i><clist></i>] which is comma separated list of keywords and values : | |
| <code>\end{kiviatchart}</code> | | |
| radius | <i><dim></i> | 3.5cm |
| | Maximal diagram radius | |
| units | <i><int></i> | 5 |
| | Set the scale of units from 0 to the given number | |
| * | <i><keyval></i> | |
| | All other options are passed to tikzpicture (<i>env</i>) | |
| | A kiviatchart (<i>env</i>) should begin with a dims (<i>env</i>), followed by one or several set (<i>env</i>). | |

3.1.1 Dimensions

| | | |
|---------------------------|--|-----------------------------------|
| <code>\begin{dims}</code> | Environment that hold the definition of all dimensions. Accepts an optional argument [<i><clist></i>] which is comma separated list of keywords and values : | |
| <code>\end{dims}</code> | | |
| radius | <i><dim></i> | kiviatchart (<i>env</i>) radius |
| | Radius to put dimension labels on | |
| label-on | <i><int></i> | 1 |
| | Dimension axis index (between 1 and number of dimensions) to put the labels on. In case of invalid value (0), the units labels are hidden. | |
| dim-options | <i><prop></i> | {opacity=0.8} |
| | <i>TikZ</i> options for drawing dimensions axis with | |

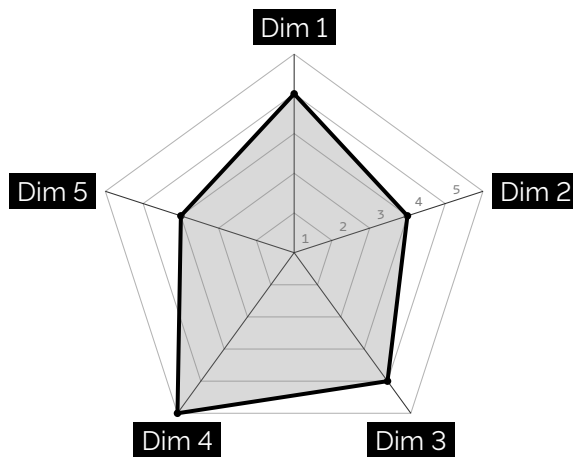
| | | |
|----------------------|--|---|
| unit-options | $\langle prop \rangle$ | <code>{opacity=0.3}</code> |
| | TikZ options for drawing unit polygons with | |
| label-options | $\langle prop \rangle$ | <code>{opacity=0.5,above,xshift=1.5mm}</code> |
| | TikZ options drawing for unit labels | |
| label-cs | $\langle str \rangle$ | <code>identity</code> |
| | Name of the cs used to format labels | |
| unit-cs | $\langle str \rangle$ | <code>tinytt</code> |
| | Name of the cs used to format unit scale | |
| angle | $\langle fp \rangle$ | <code>90</code> |
| | Angle of the first dimension | |
| \value | $\backslash value[\langle clist \rangle]{\langle label \rangle}$ is used to add a dimension to the kiviart chart. $[\langle clist \rangle]$ is passed to TikZ to draw the nodes corresponding to the labels. | |

3.1.2 Set

| | | |
|--------------------------------|--|--|
| $\backslash begin{\text{set}}$ | <code>set (env)</code> is used to add a new set to the kiviart chart. Accepts an optional argument $[\langle clist \rangle]$ which is comma separated list of keywords and values : | |
| $\backslash end{\text{set}}$ | | |
| dot-options | $\langle prop \rangle$ | <code>{fill,circle,inner sep=1pt}</code> |
| | Options for polygon node | |
| * | $\langle keyval \rangle$ | <code>color=black,line width=1.5pt,opacity=1,fill opacity=0.3,fill=gray</code> |
| | All other options are passed to <code>\draw</code> cs which draws the polygon | |
| \value | $\backslash value\{\langle int \rangle\}$ is used to add a value to the set. | |
| | There must be the same number of <code>\value</code> inside <code>set (env)</code> and <code>dims (env)</code> , and each <code>\value</code> corresponds to the dimension in <code>dims (env)</code> at the same index. | |

3.2 Examples

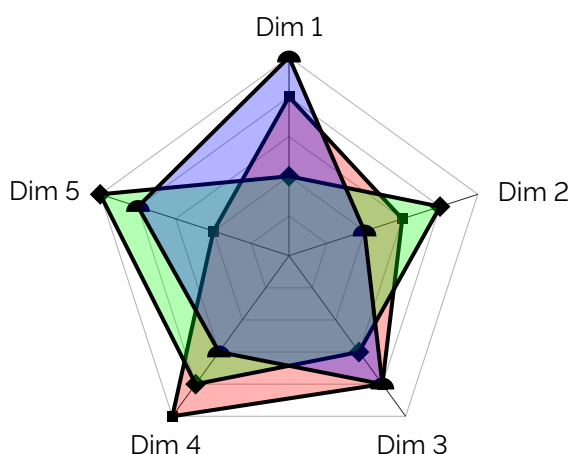
3.2.1 Simple



```
% scale is passed to tikzpicture
\begin{kiviatchart}[scale=0.75]
% Define the dimensions
\begin{dims}[
% inverted labels
label-cs=textinv,
% value scale on dim2 axis
label-on=2]
% Specify placement of each
% labels
\value[above]{Dim 1}
\value[right]{Dim 2}
\value[below]{Dim 3}
\value[below]{Dim 4}
\value[left]{Dim 5}
\end{dims}

% Add least one set should
% be defined.
\begin{set}
\value{4} % Dim 1
\value{3} % Dim 2
\value{4} % Dim 3
\value{5} % Dim 4
\value{3} % Dim 5
\end{set}
\end{kiviatchart}
```

3.2.2 Multi-set



```

\begin{kiviatchart}[scale=0.75]
\begin{dims}[
  % bigger radius for labels
  radius=3.7cm,
  % hide unit labels
  label-on=0]
  \value[above]{Dim 1}
  \value[right]{Dim 2}
  \value[below]{Dim 3}
  \value[below]{Dim 4}
  \value[left]{Dim 5}
\end{dims}

\begin{set}[% red set
  fill=red,
  % big rectangle dots
  dot-options={
    fill,rectangle,
    inner sep=2pt
  }]
  \value{4} % Dim 1
  \value{3} % Dim 2
  \value{4} % Dim 3
  \value{5} % Dim 4
  \value{2} % Dim 5
\end{set}

\begin{set}[% green set
  fill=green,
  % big diamond dots
  dot-options={
    fill,diamond,
    inner sep=2pt
  }]
  \value{2} % Dim 1
  \value{4} % Dim 2
  \value{3} % Dim 3
  \value{4} % Dim 4
  \value{5} % Dim 5
\end{set}

\begin{set}[% blue set
  fill=blue,
  % big semicircle dots
  dot-options={
    fill,semicircle,
    inner sep=2pt
  }]
  \value{5} % Dim 1
  \value{2} % Dim 2
  \value{4} % Dim 3
  \value{3} % Dim 4
  \value{4} % Dim 5
\end{set}
\end{kiviatchart}

```

3.3 To do

At the moment the environments are not user friendly. We could provide basic sanity checks, with error messages when theses rules are violated :

- one and only one `dims (env)` declared before any `set (env)`
- at least 3 dimensions are declared
- all `set (env)` have the same number of `\value` than the `dims (env)`
- `\value` in `set (env)` is between 0 and **units**

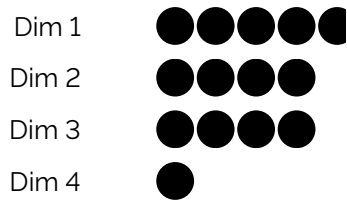
4 Ball chart

4.1 Usage

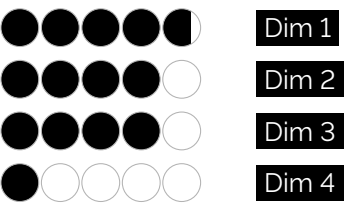
| | | |
|--------------------------------|---|--------------|
| <code>\begin{ballchart}</code> | Environment that hold a ball chart. Accepts an optional argument [<code>\clist</code>] which is comma separated list of keywords and values : | |
| <code>\end{ballchart}</code> | | |
| n | <code>\langle int \rangle</code> | 5 |
| | The number of circles per bar | |
| gap | <code>\langle dim \rangle</code> | 1ex |
| | Gap between bars | |
| cgap | <code>\langle dim \rangle</code> | 1pt |
| | Gap between circles | |
| radius | <code>\langle dim \rangle</code> | 2.5mm |
| | Radius of the circles | |
| label-cs | <code>\langle str \rangle</code> | identity |
| | Macro name to format labels | |
| fill-options | <code>\langle prop \rangle</code> | {fill=black} |
| | TikZ options to fill the balls with | |
| draw-options | <code>\langle prop \rangle</code> | {draw=none} |
| | TikZ options to draw the balls with | |
| label-options | <code>\langle prop \rangle</code> | {left} |
| | TikZ options for dimensions axis | |
| label-cs | <code>\langle str \rangle</code> | identity |
| | Macro name to format labels | |
| label-pos | <code>\langle str \rangle</code> | left |
| | Position of the label. Possible values : | |
| | <ul style="list-style-type: none"> • <code>left, right</code> • <code>above, below</code> • <code>above right, above left</code> • <code>below right, below left</code> | |
| value-cs | <code>\langle str \rangle</code> | nop |
| | cs name to format values with | |
| * | <code>\langle keyval \rangle</code> | |
| | All other options are passed to <code>tikzpicture (env)</code> | |
| \value | <code>\value{\langle label \rangle}{\langle percent \rangle}</code> is used to add a new bar. | |

4.2 Examples

4.2.1 Simple

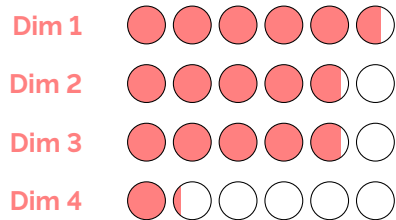


```
\begin{ballchart}
  \value{Dim 1}{95}
  \value{Dim 2}{80}
  \value{Dim 3}{80}
  \value{Dim 4}{20}
\end{ballchart}
```



```
\begin{ballchart}[
  % inverted labels
  label-cs=textinv,
  % to the right
  label-pos=right,
  % closer to the bar
  label-options={xshift=-8mm},
  % show circle
  draw-options={draw=black!30}]
  \value{Dim 1}{95}
  \value{Dim 2}{80}
  \value{Dim 3}{80}
  \value{Dim 4}{20}
\end{ballchart}
```

4.2.2 Delimited



```
\begin{ballchart}[
  % 6 circles per bar
  n=6,
  % red labels
  label-cs=redbf,
  % closer to bar
  label-options={xshift=4mm},
  % bigger gap
  gap=1.5ex,
  cgap=3pt,
  % fill in red
  fill-options={fill=red!50},
  % black circle
  draw-options={draw=black}]
  \value{Dim 1}{95}
  \value{Dim 2}{80}
  \value{Dim 3}{80}
  \value{Dim 4}{20}
\end{ballchart}
```

5 Bar chart

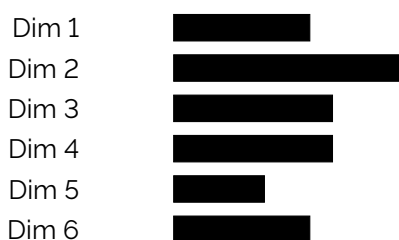
5.1 Usage

| | | |
|-------------------------------|---|-------|
| <code>\begin{barchart}</code> | Environment that hold a bar chart. Accepts an optional argument [<i><clist></i>] which is comma separated list of keywords and values : | |
| <code>\end{barchart}</code> | | |
| <code>width</code> | <i><dim></i> | 3cm |
| | Maximum width | |
| <code>height</code> | <i><dim></i> | 3.5mm |
| | Bar height | |

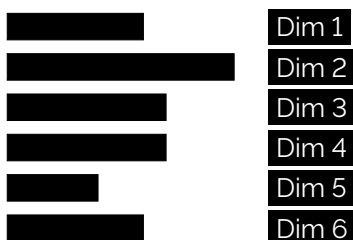
| | | |
|----------------------|---|---------------------|
| gap | $\langle dim \rangle$ Gap between bars | 1ex |
| fill-options | $\langle prop \rangle$ TikZ options to fill the bar with | {fill=none} |
| draw-options | $\langle prop \rangle$ TikZ options to draw the bar with | {fill=black} |
| label-options | $\langle prop \rangle$ TikZ options for dimensions axis | {} |
| label-cs | $\langle str \rangle$ Macro name to format labels | identity |
| label-pos | $\langle str \rangle$ Position of the label. Possible values : | left |
| | <ul style="list-style-type: none"> • left, right • above, below • above right, above left • below right, below left | |
| value-cs | $\langle str \rangle$ cs name to format values with | nop |
| * | $\langle keyval \rangle$ All other options are passed to tikzpicture (<i>env</i>) | |
| \value | $\backslash value\{\langle label \rangle\}\{\langle percent \rangle\}$ is used to add a new bar. | |

5.2 Examples

5.2.1 Simple

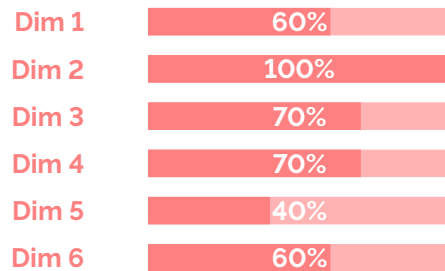


```
\begin{barchart}
  \value{Dim 1}{60}
  \value{Dim 2}{100}
  \value{Dim 3}{70}
  \value{Dim 4}{70}
  \value{Dim 5}{40}
  \value{Dim 6}{60}
\end{barchart}
```



```
\begin{barchart}[
  % inverted labels
  label-cs=textinv,
  % to the right
  label-pos=right,
  % closer to bar
  label-options={xshift=-8mm}]
  \value{Dim 1}{60}
  \value{Dim 2}{100}
  \value{Dim 3}{70}
  \value{Dim 4}{70}
  \value{Dim 5}{40}
  \value{Dim 6}{60}
\end{barchart}
```

5.2.2 Gauge



```
\begin{barchart}[
  % 4cm wide bars
  width=4cm,
  % inverted labels
  label-cs=redbf,
  % closer to bar
  label-options={xshift=4mm},
  % show values
  value-cs=whitebfp,
  % bigger gap
  gap=1.5ex,
  % bar in red
  draw-options={
    draw=red!50,
    fill=red!50},
  % show borders in red
  fill-options={
    fill=red!30,
    draw=red!30}]
\value{Dim 1}{60}
\value{Dim 2}{100}
\value{Dim 3}{70}
\value{Dim 4}{70}
\value{Dim 5}{40}
\value{Dim 6}{60}
\end{barchart}
```

6 Bubble chart

6.1 Usage

| | | | |
|----------------------------------|---|--|-----------------------|
| <code>\begin{bubblechart}</code> | Environment that hold a bubble chart. Accepts an optional argument [<i><clist></i>] which is comma separated list of keywords and values : | | |
| <code>\end{bubblechart}</code> | | | |
| radius | <i><dim></i> | | 1cm |
| | Max radius | | |
| gap | <i><dim></i> | | 1ex |
| | Gap between bubbles | | |
| fill-options | <i><prop></i> | | {fill=none,draw=none} |
| | TikZ options to fill/draw the background with | | |
| draw-options | <i><prop></i> | | {fill=black} |
| | TikZ options to fill/draw the bubble with | | |
| label-cs | <i><str></i> | | identity |
| | Macro name to format labels | | |
| label-pos | <i><str></i> | | above |
| | Position of the label. Possible values : | | |
| | <ul style="list-style-type: none"> • left, right • above, below • above right, above left • below right, below left | | |
| value-cs | <i><str></i> | | nop |
| | cs name to format values with | | |

vertical $\langle \text{bool} \rangle$

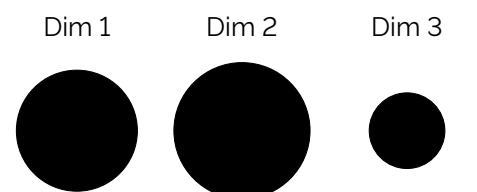
false

Stack the bubble vertically instead of horizontally

***** $\langle \text{keyval} \rangle$ All other options are passed to `tikzpicture` (*env*)**\value** `\value{ $\langle \text{label} \rangle$ }{ $\langle \text{percent} \rangle$ }` is used to add a new bubble.

6.2 Examples

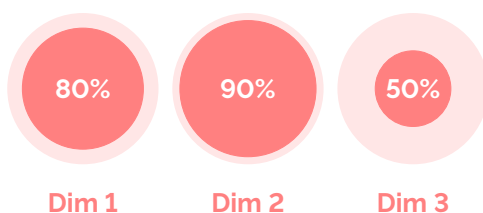
6.2.1 Horizontal



```
\begin{bubblechart}
  \value{Dim 1}{80}
  \value{Dim 2}{90}
  \value{Dim 3}{50}
\end{bubblechart}
```

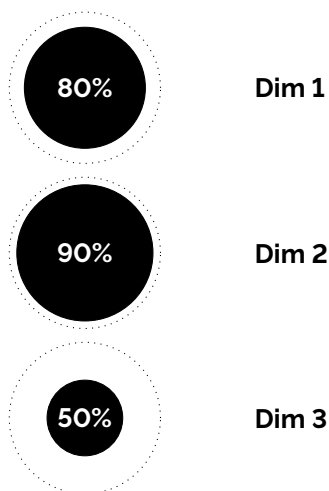


```
\begin{bubblechart}[
  % inverted labels
  label-cs=textinv,
  % below bubble
  label-pos=below,
  % show borders
  fill-options={
    fill=none,
    draw=black!30}]
  \value{Dim 1}{80}
  \value{Dim 2}{90}
  \value{Dim 31}{50}
\end{bubblechart}
```



```
\begin{bubblechart}[
  % label in red
  label-cs=redbf,
  % below bubble
  label-pos=below,
  % show value
  value-cs=whitebfp,
  % bubble in red
  draw-options={
    draw=red!50,
    fill=red!50},
  % background in light red
  fill-options={
    fill=red!10}]
  \value{Dim 1}{80}
  \value{Dim 2}{90}
  \value{Dim 3}{50}
\end{bubblechart}
```

6.2.2 Vertical



```
\begin{bubblechart}[
  % stack bubbles vertically
  vertical,
  % label in bold
  label-cs=textbf,
  % show values
  value-cs=whitebf,
  % to the right
  label-pos=right,
  % show max as dotted line
  fill-options={
    fill=none,
    draw=black,
    dotted}]
\value{Dim 1}{80}
\value{Dim 2}{90}
\value{Dim 3}{50}
\end{bubblechart}
```

7 Radial chart

7.1 Usage

| | | | |
|----------------------------------|---|---------------------------|-------|
| <code>\begin{radialchart}</code> | Environment that hold a radial chart. Accepts an optional argument [<i><clist></i>] which is comma separated list of keywords and values : | | |
| <code>\end{radialchart}</code> | | | |
| radius | <i><dim></i> | | 1cm |
| | Max radius | | |
| gap | <i><dim></i> | | 2.5ex |
| | Gap between radials | | |
| line width | <i><dim></i> | | 3mm |
| | Line width to draw the radials with | | |
| fill-options | <i><prop></i> | {fill=none,draw=black!10} | |
| | TikZ options to fill/draw the center of the radial with | | |
| draw-options | <i><prop></i> | black | |
| | TikZ options to draw the radial with | | |
| label-options | <i><prop></i> | {} | |
| | TikZ options drawing for unit labels | | |
| label-cs | <i><str></i> | identity | |
| | cs name to format labels with | | |
| label-pos | <i><str></i> | above | |
| | Position of the label. Possible values : | | |
| | <ul style="list-style-type: none"> • left, right • above, below • above right, above left • below right, below left | | |
| value-cs | <i><str></i> | identity | |
| | cs name to format values with | | |
| vertical | <i><bool></i> | false | |

Stack radials vertically instead of horizontally

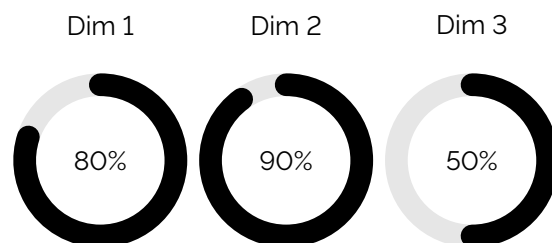
* $\langle keyval \rangle$

line cap=round

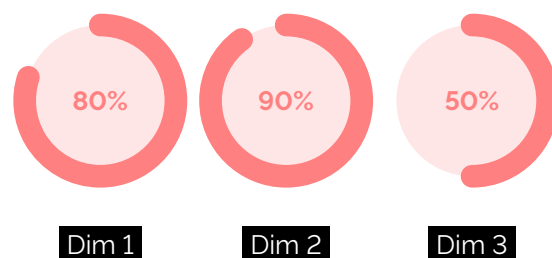
All other options are passed to `tikzpicture` (*env*)

7.2 Examples

7.2.1 Horizontal

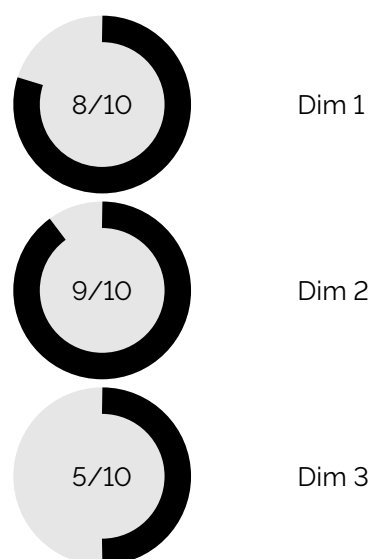


```
\begin{radialchart}
  \value{Dim 1}{80}
  \value{Dim 2}{90}
  \value{Dim 3}{50}
\end{radialchart}
```



```
\begin{radialchart}[
  % inverted label,
  label-cs=textinv,
  % below radial,
  label-pos=below,
  % in red bold.
  value-cs=redbf,
  % ring is red
  draw-options={red!50},
  % disk is light red
  fill-options={
    fill=red!10}]
  \value{Dim 1}{80}
  \value{Dim 2}{90}
  \value{Dim 3}{50}
\end{radialchart}
```

7.2.2 Vertical



```
\begin{radialchart}[
  % stack radials vertically
  vertical,
  % label as tenth fraction
  value-cs=tenrate,
  % to the right
  label-pos=right,
  % thicker line
  line width=3.5mm,
  % with rect end
  line cap=butt,
  % same color for disk and ring
  fill-options={
    draw=black!10,
    fill=black!10}]
  \value{Dim 1}{80}
  \value{Dim 2}{90}
  \value{Dim 3}{50}
\end{radialchart}
```

8 Arc chart

8.1 Usage

| | | | |
|-------------------------------|--|---------------------------|---|
| <code>\begin{arcchart}</code> | Environment that hold an arc chart. Accepts an optional argument [<i><clist></i>] which is comma separated list of keywords and values : | | |
| <code>\end{arcchart}</code> | | | |
| radius | <i><dim></i> | 1cm | Radius of outer arc |
| gap | <i><dim></i> | 2.5ex | Gap between arcs |
| line width | <i><dim></i> | 4mm | Line width to draw the arc with |
| fill-options | <i><prop></i> | {fill=none,draw=black!10} | TikZ options to fill/draw the background of the arcs with |
| draw-options | <i><prop></i> | black | TikZ options to draw the arcs with |
| label-options | <i><prop></i> | {} | TikZ options drawing for unit labels |
| label-cs | <i><str></i> | identity | cs name to format labels with |
| value-options | <i><prop></i> | | TikZ options to draw values with |
| value-cs | <i><str></i> | nop | cs name to format values with |
| value-angle | <i><fp></i> | 90 | Angle at which to draw the values |
| * | <i><keyval></i> | line cap=round | All other options are passed to <code>tikzpicture</code> (<i>env</i>) |

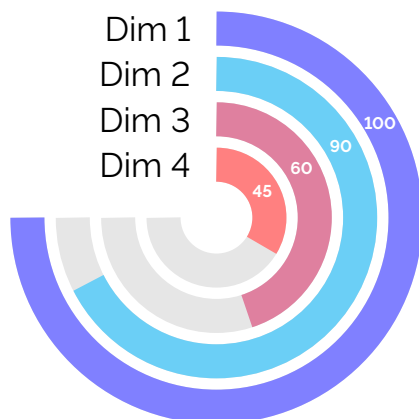
8.2 Examples

8.2.1 Simple



```
\begin{arcchart}
  \value{Dim 1}{100}
  \value{Dim 2}{90}
  \value{Dim 3}{60}
  \value{Dim 4}{45}
\end{arcchart}
```

8.2.2 Colorful



```
\begin{arcchart}[
  % bigger radius,
  radius=2.5cm,
  % and gap
  gap=1.5mm,
  % show values
  value-cs=whitebf,
  % at 30°
  value-angle=30,
  % thicker line width,
  line width=4.5mm,
  % with square end
  line cap=butt]
  % each ring has its own color
  \value[blue!50]{Dim 1}{100}
  \value[cyan!50]{Dim 2}{90}
  \value[purple!50]{Dim 3}{60}
  \value[red!50]{Dim 4}{45}
\end{arcchart}
```

9 Macros

9.1 Package

These are macros defined in `l3charts.sty` and used as default value for `label-cs` or `value-cs` options.

`\tinytt` Macro used to format its argument as tiny monospace

```
\cs_set:Npn \tinytt #1 {\texttt{\tiny #1}}
```

`\identity` Macro used to return the first argument as is

```
\cs_set:Npn \identity #1 {#1}
```

`\nop` Macro used to consume the first argument and do nothing

```
\cs_set:Npn \nop #1 {}
```

`\percent` Macro used to append a percent to its argument

```
\cs_set:Npn \percent #1 {#1\%}
```

9.2 Examples

These macros are defined for the examples presented in this document and are not part of the module `l3charts.sty`.

`\textbfp` Macro used to format its argument as bold with appended %

```
\NewDocumentCommand\textbfp{m}{\textbf{\percent{#1}}}
```

`\tenrate` Macro used to format its argument as fraction of ten

```
\ExplSyntaxOn
\NewDocumentCommand\tenrate{m}{\int_eval:n{#1/10}/10}
\ExplSyntaxOff
```

`\textinv` Macro used to format its argument as white text on black background

```
\NewDocumentCommand\textinv{m}{\colorbox{black}{\textcolor{white}{#1}}}
```

`\redbf` Macro used to format its argument as bold and red

`\NewDocumentCommand\redbf{m}{\textcolor{red!50}{\textbf{#1}}}`

`\redbfp` Macro used to format its argument as bold and red with appended %

`\NewDocumentCommand\redbfp{m}{\textcolor{red!50}{\textbfp{#1}}}`

`\whitebf` Macro used to format its argument as bold and white

`\NewDocumentCommand\whitebf{m}{\textcolor{white}{\textbf{#1}}}`

`\whitebfp` Macro used to format its argument as bold and white with appended %

`\NewDocumentCommand\whitebfp{m}{\textcolor{white}{\textbfp{#1}}}`

10 Index

Numbers in upright shape refer to the *page* where the corresponding entry is described (bold face) resp. occurs.

| | | | | |
|-----------------|---|--------------------------------|--|-----------------------------|
| Options | <code>*</code> (option) | 3, 4, 7, 9, 11, 13, 14 | <code>label-pos</code> | 7, 9, 10, 12 |
| | <code>*</code> | 3, 4, 7, 9, 11, 13, 14 | <code>line width</code> | 12, 14 |
| | <code>angle</code> | 4 | <code>n</code> | 7 |
| | <code>cgap</code> | 7 | <code>radius</code> | 3, 7, 10, 12, 14 |
| | <code>dim-options</code> | 3 | <code>unit-cs</code> | 4 |
| | <code>dot-options</code> | 4 | <code>unit-options</code> | 4 |
| | <code>draw-options</code> | 7, 9, 10, 12, 14 | <code>units</code> | 3 |
| | <code>fill-options</code> | 7, 9, 10, 12, 14 | <code>value-angle</code> | 14 |
| | <code>gap</code> | 7, 9, 10, 12, 14 | <code>value-cs</code> | 7, 9, 10, 12, 14 |
| | <code>height</code> | 8 | <code>value-options</code> | 14 |
| | <code>label-cs</code> | 4, 7, 9, 10, 12, 14 | <code>vertical</code> | 11, 12 |
| | <code>label-on</code> | 3 | <code>width</code> | 8 |
| | <code>label-options</code> | 4, 7, 9, 12, 14 | | |
| | | | <code>textbfp</code> | 15 |
| Commands | <code>identity</code> | 15 | <code>textinv</code> | 15 |
| | <code>nop</code> | 15 | <code>tinytt</code> | 15 |
| | <code>percent</code> | 15 | <code>value</code> | 4, 7, 9, 11 |
| | <code>redbf</code> | 16 | <code>whitebf</code> | 16 |
| | <code>redbfp</code> | 16 | <code>whitebfp</code> | 16 |
| | <code>tenrate</code> | 15 | | |
| | A <code>angle</code> (option) | 4, 17 | <code>arcchart</code> (environment) | 14, 17 |
| | B <code>ballchart</code> (environment) | 7, 17 | <code>bubblechart</code> (environment) | 10, 17 |
| | <code>barchart</code> (environment) | 8, 17 | | |
| | C <code>cgap</code> (option) | 7, 17 | | |
| | D <code>dim-options</code> (option) | 3 | <code>dot-options</code> (option) | 4 |
| | <code>dims</code> (environment) | 3, 3, 4, 7, 17 | <code>\draw</code> | 4 |
| | <code>docstrip</code> (package) | 3 | <code>draw-options</code> (option) | 7, 9, 10, 12, 14, 17 |
| | E <code>expl3</code> (package) | 3 | | |
| | F <code>fill-options</code> (option) | 7, 9, 10, 12, 14, 17 | <code>height</code> (option) | 8 |
| | G <code>gap</code> (option) | 7, 9, 10, 12, 14, 17 | | |
| | H <code>h-sep</code> (option) | 17 | | |
| | I <code>\identity</code> | 15 | | |
| | K <code>kiviatchart</code> (environment) | 3, 3, 17 | | |
| | L <code>l3charts.sty</code> (package) | 15 | <code>label-pos</code> (option) | 7, 9, 10, 12, 17 |
| | <code>label-cs</code> (option) | 4, 7, 9, 10, 12, 14, 15 | <code>labels-radius</code> (option) | 17 |
| | <code>label-on</code> (option) | 3, 17 | <code>line width</code> (option) | 12, 14, 17 |
| | <code>label-options</code> (option) | 4, 7, 9, 12, 14 | <code>line-width</code> (option) | 17 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| | | | |
|----------|--|--------------------------|--|
| M | <code>microtype</code> (package) | 3, 17 | |
| N | <code>n</code> (option) | 7 | <code>\nop</code> 15 |
| P | <code>\percent</code> | 15 | |
| R | <code>radialchart</code> (environment) | 12, 17 | <code>\redbf</code> 16 |
| | <code>radius</code> (option) | 3, 3, 7, 10, 12, 14, 17 | <code>\redbfp</code> 16 |
| S | <code>set</code> (environment) | 3, 4, 4, 7, 17 | |
| T | <code>\tenrate</code> | 15 | <code>tikzpicture</code> (environment) 3, 7, 9, 11, 13, 14 |
| | <code>\textbfp</code> | 15 | <code>\tinytt</code> 15 |
| | <code>\textinv</code> | 15 | |
| U | <code>unit-cs</code> (option) | 4 | <code>units</code> (option) 3 |
| | <code>unit-options</code> (option) | 4 | |
| V | <code>v-sep</code> (option) | 17 | <code>value-cs</code> (option) 7, 9, 10, 12, 14, 15 |
| | <code>\value</code> | 4, 4, 7, 7, 9, 9, 11, 11 | <code>value-options</code> (option) 14 |
| | <code>value-angle</code> (option) | 14 | <code>vertical</code> (option) 11, 12 |
| W | <code>\whitebf</code> | 16 | <code>width</code> (option) 8 |
| | <code>\whitebfp</code> | 16 | |

11 Changes

0.7.0 (2022/08/01)

- add a `arcchart` (*env*)
- rename `line-width` to `line width` for consistency with `TikZ`
- use choice to restrict values on `label-pos`
- remove spurious `;` and replace `c_space_tl` by `~`

0.6.1 (2022/07/26)

- add a `label-on` option for `dims` (*env*) of `kiviatchart` (*env*)

0.6.0 (2022/07/26)

- draw `kiviatchart` (*env*) dimensions clockwise with a starting angle of 90
- allow value of 0 for `set` (*env*)
- rename `labels-radius` to `radius` and move to `dims` (*env*)

0.5.1 (2022/07/19)

- remove hard coded `%` in `value`.

0.5.0 (2022/07/18)

- convert all `<fp>` to `<dim>` for usability
- rename `v-sep` and `h-sep` options of `ballchart` (*env*) to `gap` and `cgap` for consistency

0.4.0 (2022/07/17)

- add values to `bubblechart` (*env*)
- label positioning on `barchart` (*env*) and `ballchart` (*env*)
- swap `fill-options` and `draw-options` for `barchart` (*env*) for consistency

0.3.0 (2022/07/15)

- add a `radialchart` (*env*) to draw radials
- add a vertical mode to `bubblechart` (*env*) and allow positioning of the label
- swap `fill-options` and `draw-options` for `bubblechart` (*env*) for consistency

0.2.0 (2022/07/04)

- define a document class borrowed from `microtype`

0.1.0 (2022/07/01)

- Initial version