

uniPlot

a package to uniform and customize R graphics

Sina Rüeger

IDP Institute of Data Analysis and Process Design
ZHAW Zurich University of Applied Sciences

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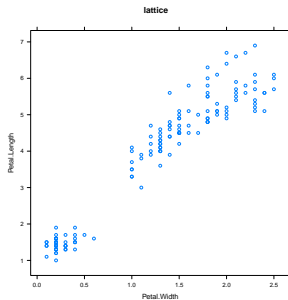
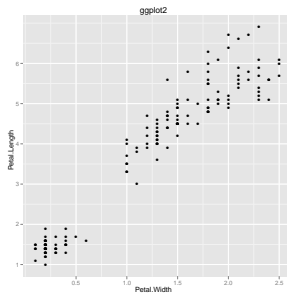
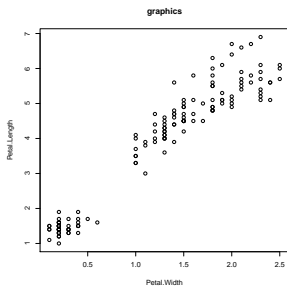
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of Applied Sciences

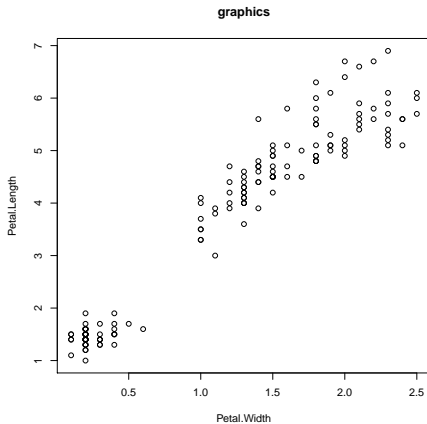


uniPlot should make the work with graphical displays in R produced for reports less time intensive.

- 1 Data Analysis with **graphics**, **ggplot2** and **lattice**
- 2 Report
- 3 Formatting

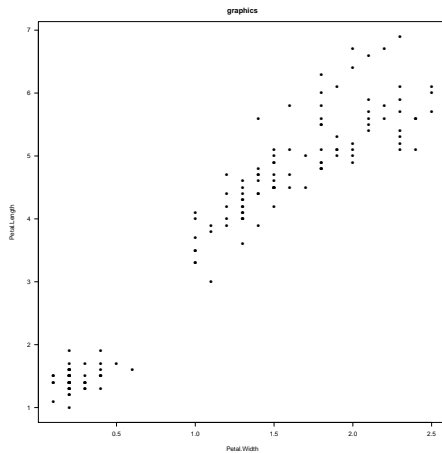
Tufte (1983): *Induce the viewer to think about the substance rather than about methodology, graphic design, the technology of graphic production, or something else.*

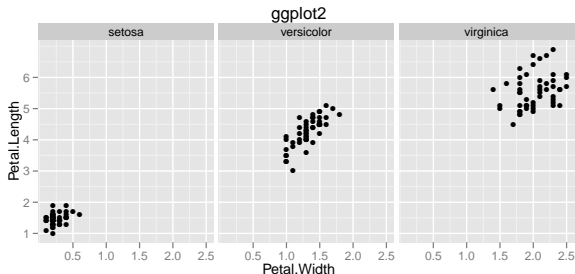




```
> par(pch = 16, las = 1, mar = c(4, 4, 3, 2), cex = 0.8)

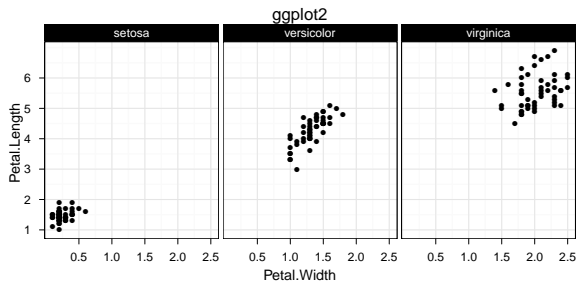
> plot(iris$Petal.Width, iris$Petal.Length, main='Iris', xlab='Petal.Width',
ylab='Petal.Length')
```

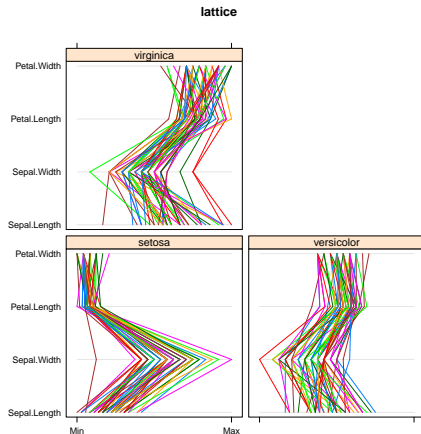




```
> theme_set(theme_bw())
```

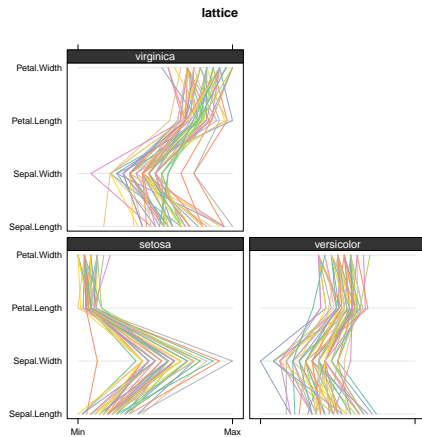
```
> qplot(Petal.Width, Petal.Length, data=iris, main='Iris', xlab=Petal.Width',  
ylab='Petal.Length') + facet_grid( Species) + opts(axis.title.x = theme_text(vjust = 0),  
panel.border = theme_rect(colour = 'black'), strip.background = theme_rect(colour = "black",  
fill = 'black'), strip.text.x = theme_text(colour = 'white'))
```





```
> trellis.par.set(superpose.line = list(col = brewer.pal(8,'Set2')), strip.background =
list(col = gray(0.2)), add.text = list(col = 'white'))
```

```
> parallel(~iris[1:4] | Species, iris, main = 'Iris')
```

Solutions

- use only one package
- use function `ggplot2like` package **latticeExtra** for **ggplot2** and **lattice**
- adjust settings of packages **graphics**, **ggplot2** and **lattice**

Idea of uniPlot

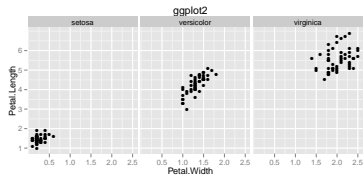
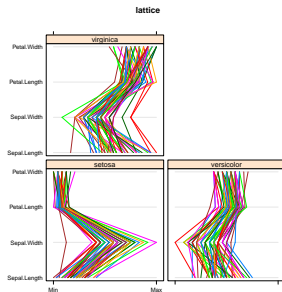
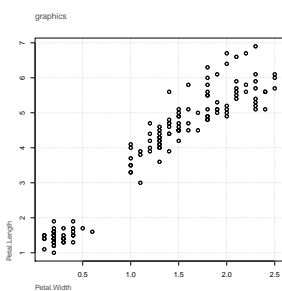
- 1 Synchronize options over **graphics**, **ggplot2** and **lattice** by adjusting *one* of them.
- 2 Making these options *persistent* over one R session.
- 3 Reset of options should be possible.

Simple usage!

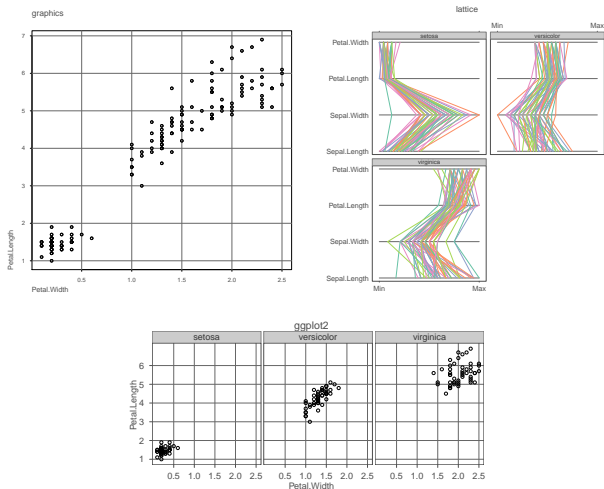
Application

```
> uniPlot  
(  
  type = 'uniPlot',  
  ggplot2 = NULL,  
  graphics = NULL,  
  lattice = NULL,  
)
```

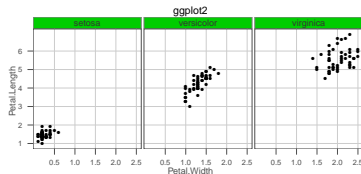
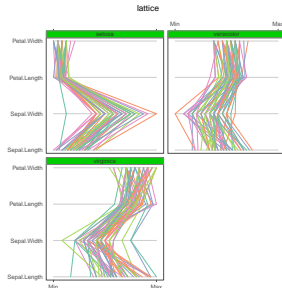
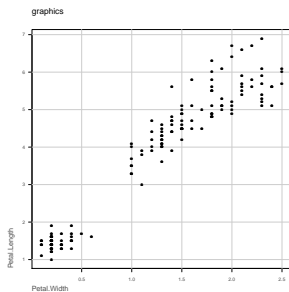
```
> uniPlot()
```



```
> uniPlot(graphics = list(cex.axis = 1))
```

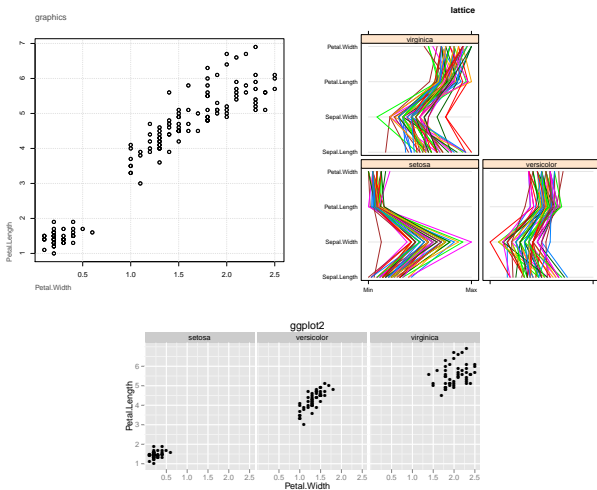


```
> uniPlot(graphics = list(pch = 16, reference.col =  
gray(0.8), tcl = (-0.5), col.main = "black"), lattice =  
list(strip.background.col = "green3"))
```



```
> uniPlot(type = 'before')
```

→ reset options



Challenges

Synchronize options over all three packages

Gaps in alignment of options.

Synchronize

Synchronize by using S4-classes?

Flexibility

Customizing graphical displays in R should not lead to less flexibility of options in R. Currently this is the case for package **graphics**.

Open Points

- clean up code
- creating styles / allowing themes
- color palettes
- show settings
- compute device size

Contact

Sina Rüeger
IDP, ZHAW
Rosenstrasse 3
CH - 8401 Winterthur
rusa@zhaw.ch

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