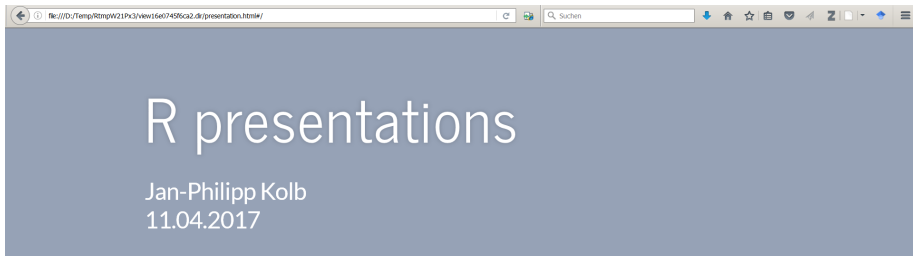


B5 Rmarkdown und Co

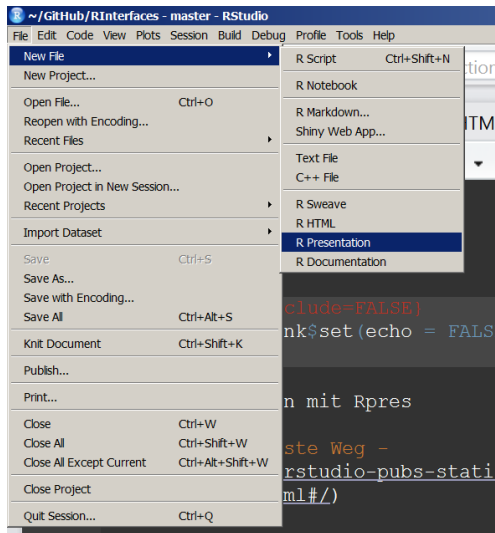
Jan-Philipp Kolb

16 Oktober 2018

Präsentationen - Rpres der einfachste Weg



Eine erste Präsentation



Erste Daten eintragen

- Für Vergessliche:

```
date()
```

```
## [1] "Thu Oct 04 15:26:24 2018"
```

Eine Folie mit Formel

- Die Formel kann wie in LaTeX eingegeben werden

```
$$  
\begin{equation}\label{eq2}  
t_{\{i\}}=\sum\limits_{k=1}^{M_{\{i\}}}\{y_{\{ik\}}\}=M_{\{i\}}\bar{Y}_{\{i\}}.  
\end{equation}  
$$
```

The screenshot shows an R Presentation window with a dark editor on the left and a light preview on the right. The editor contains LaTeX code for a formula, and the preview shows the rendered result.

Editor Content:

```
29 Folie mit LaTeX Code  
30  
31  
32  
33 $$  
34 \begin{equation}\label{eq2}  
35 t_{\{i\}}=\sum\limits_{k=1}^{M_{\{i\}}}\{y_{\{ik\}}\}=M_{\{i\}}\bar{Y}_{\{i\}}.  
36 \end{equation}  
37 $$  
38
```

Preview Content:

Folie mit LaTeX Code

$$t_i = \sum_{k=1}^{M_i} y_{ik} = M_i \bar{Y}_i$$

Zwei Spalten

Folie mit zwei Spalten

=====

Erste Spalte

Zweite Spalte

Folienübergänge

transition: rotate

```
1 Meine Erste Präsentation mit Markdown
2 ♥ =====
3 author: Jan-Philipp Kolb
4 date: Thu Apr 20 09:06:19 2017
5 autosize: true
6 transition: rotate|
7
```

Weitere mögliche Folienübergänge

- none
- linear
- rotate
- fade
- zoom
- concave

Folientypen

Ein neues Kapitel einfügen

=====

type: section

Anderer Folientyp

=====

type: prompt

Noch ein anderer Folientyp

=====

type: alert

Die Schriftart wechseln

- Die **CSS Schrifttypen** können verwendet werden

Meine Präsentation

=====

author: Jan-Philipp Kolb

font-family: 'Impact'

Schrifttypen können auch importiert werden

Meine Präsentation

=====

author: Jan-Philipp Kolb

font-import: <http://fonts.googleapis.com/css?family=Risque>

font-family: 'Risque'



Kleineren Text

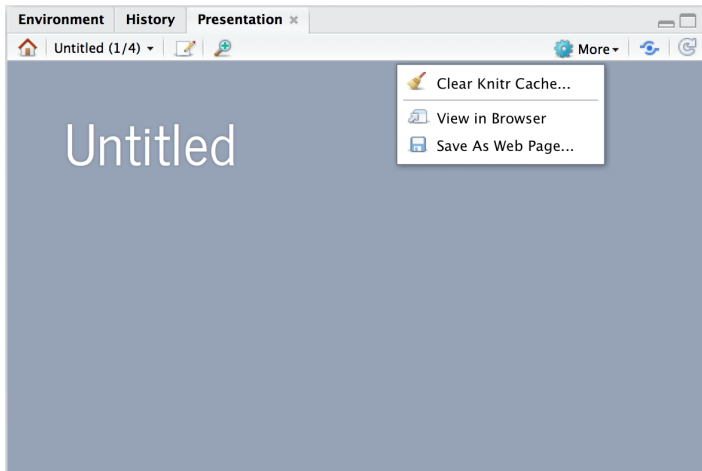
Normale Schriftgröße

```
<small>This sentence will appear smaller.</small>
```

Die Präsentation anschauen

- Das Ergebnis ist hier zu sehen:

<http://rpubs.com/Japhilko82/FirstRpubs>




Eine ioslides Präsentation


Eine ioslides Präsentation





ioslides - Der Start

New R Markdown

 Document

 Presentation

 Shiny

 From Template

Title:

Author:

Default Output Format:

- ☒ HTML (ioslides)
HTML presentation viewable with any browser (you can also print ioslides to PDF with Chrome).
- ☐ HTML (Slidy)
HTML presentation viewable with any browser (you can also print Slidy to PDF with Chrome).
- ☐ PDF (Beamer)
PDF output requires TeX (MiKTeX on Windows, MacTeX 2013+ on OS X, TeX Live 2013+ on Linux).

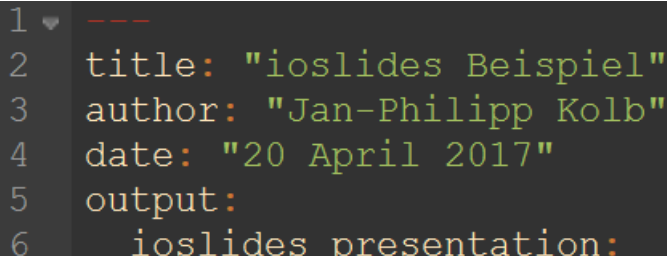
Weitere Dinge tun

- Ein Bild einbinden

`![picture of spaghetti](images/spaghetti.jpg)`

Ein Logo hinzu

```
---  
title: "ioslides Beispiel"  
author: "Jan-Philipp Kolb"  
date: "20 April 2017"  
output:  
  ioslides_presentation:  
    logo: figure/Rlogo.png  
---
```



```
1 ---  
2 title: "ioslides Beispiel"  
3 author: "Jan-Philipp Kolb"  
4 date: "20 April 2017"  
5 output:  
6   ioslides presentation:
```

Tabellen

- Quelle: **R Studio, and Presentations, and Git! Oh my!**

```
library(knitr)
a <- data.frame(a=1:10,b=10:1)
kable(table(a))
```

1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	1	0	0
0	0	0	0	0	0	1	0	0	0
0	0	0	0	0	1	0	0	0	0
0	0	0	0	1	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0

knitr - was steckt dahinter?

Sprachen mit knitr

```
names(knitr::knit_engines$get())
```

```
## [1] "awk"          "bash"         "coffee"      "gawk"         "groovy"
## [6] "haskell"      "lein"         "mysql"        "node"         "octave"
## [11] "perl"         "psql"         "Rscript"      "ruby"         "sas"
## [16] "scala"        "sed"          "sh"           "stata"        "zsh"
## [21] "highlight"    "Rcpp"         "tikz"         "dot"          "c"
## [26] "fortran"      "fortran95"    "asy"          "cat"          "asis"
## [31] "stan"         "block"        "block2"       "js"           "css"
## [36] "sql"          "go"           "python"       "julia"
```

```
x = 'hello, python world!'
print(x.split(' '))
```

Eine slidy Präsentation

slidy Präsentationen



Präsentationen mit R und Rstudio

Jan-Philipp Kolb

11 April 2017

Was sind Cascading Style Files (CSS))



- Stylesheet-Sprache für elektronische Dokumente
- eine der Kernsprachen des World Wide Webs.
- CSS wurde entworfen, um Darstellungsvorgaben weitgehend von den Inhalten zu trennen

CSS und R

- Custom CSS
- CSS pro tipps

Beispiel CSS

```
1 body, td {  
2     font-family: Lucida Console;  
3     background-color: transparent;  
4     font-size: 20px;  
5 }  
6
```


Das CSS ändern


Um den Präsentationstyp zu ändern kann man das CSS verändern


- **Cascading Style Sheets (CSS)**
- Bspw. lässt sich die **Farbe (HTML)** ändern.
- **Man kann eine andere Schriftart wählen**
- **Es gibt zahlreiche Möglichkeiten der Schriftformatierung**
- **Daneben gibt es viele weitere Dinge, die sich mit dem CSS steuern lassen**


HTML Dokumente


Ein HTML Dokument erzeugen

New R Markdown

 Document

 Presentation

 Shiny

 From Template

Title:

Author:

Default Output Format:

☒ HTML

Recommended format for authoring (you can switch to PDF or Word output anytime).

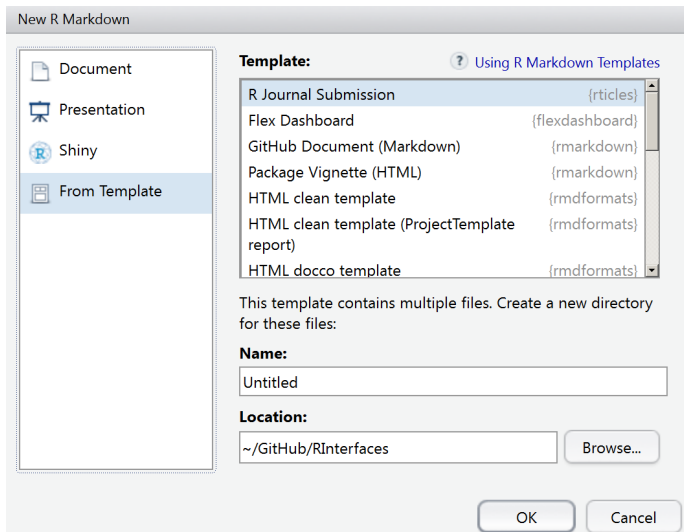
☐ PDF

PDF output requires TeX (MiKTeX on Windows, MacTeX 2013+ on OS X, TeX Live 2013+ on Linux).

☐ Word

Previewing Word documents requires an installation of MS Word (or Libre/Open Office on Linux).

Ein Template verwenden



Weitere Vorlagen nutzen

- Es gibt viele Formate - **manche müssen erst aktiviert werden:**

```
install.packages("rticles")
```

Short Paper

Alice Anonymous
Some Institute of Technology
alice@example.com

Bob Security
Another University
bob@example.com

ABSTRACT

This is the abstract.

It consists of two paragraphs.

1. INTRODUCTION

ut diam. Nulla ut dapibus quam.

Sed est odio, ornare in rutrum et, dapibus in urna. Suspendisse varius massa in ipsum placerat, quis tristique magna consequat. Suspendisse non convallis augue. Quisque fermentum justo et lorem volutpat euismod. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cu-

Vorlagen für Markdown

Das Paket `rmdformats` - HTML Output Formats and Templates for 'rmarkdown'

```
install.packages("rmdformats")
```

- ProjectTemplate - Automates the Creation of New Statistical Analysis

```
install.packages("ProjectTemplate")
```

- tufte - Tufte's Styles for R Markdown Documents

```
install.packages("tufte")
```

Beispiele für Templates

readthedown template example

Code and tables
Figures
Mathjax

readthedown template example

Code and tables

Syntax highlighting

Here is a sample code chunk, just to show that syntax highlighting works as expected.

```
library(ggplot2)
library(dplyr)

not_null <- function(v) {
  if (is.null(v)) return(paste(v, "not null"))
}

data(iris)
tab <- iris %>%
  group_by(Species) %>%
  summarise(Sepal.Length = mean(Sepal.Length),
            Sepal.Width = mean(Sepal.Width),
            Petal.Length = mean(Petal.Length),
            Petal.Width = mean(Petal.Width))
```

Verbatim

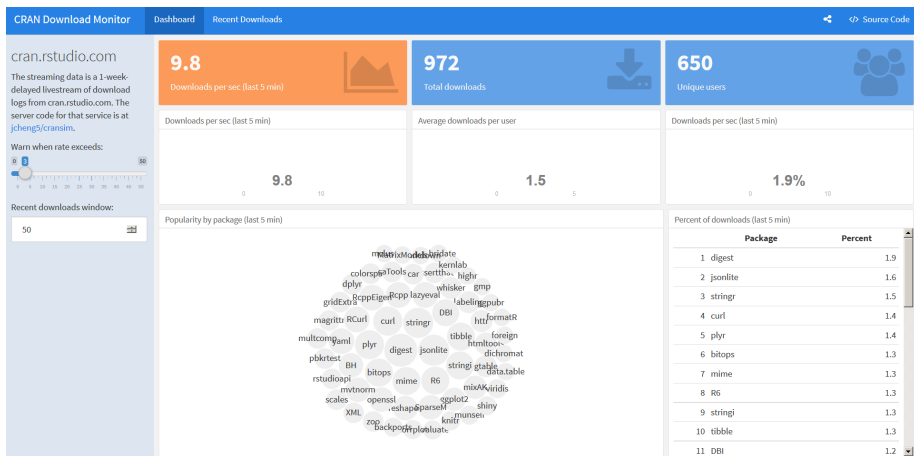
Here is the structure of the `iris` dataset.

```
str(iris)
```

```
'data.frame':   150 obs. of  5 variables:
 $ Sepal.Length: num  5.1 4.9 4.7 4.6 5 5.4 4.6 5 4.4 4.9 ...
 $ Sepal.Width : num  3.5 3 3.2 3.1 3.6 3.9 3.4 3.6 2.9 3.1 ...
 $ Petal.Length: num  1.4 1.4 1.5 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
 $ Petal.Width : num  0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
 $ Species : Factor w/ 3 levels "setosa","versicolour",...: 1 1 1 1 1 1 1 1 1 ...
```

Dashboards

Beispiel R-Pakete

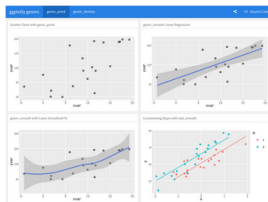
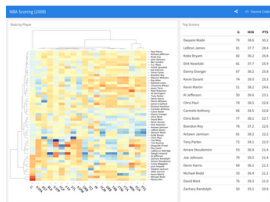


Paket installieren

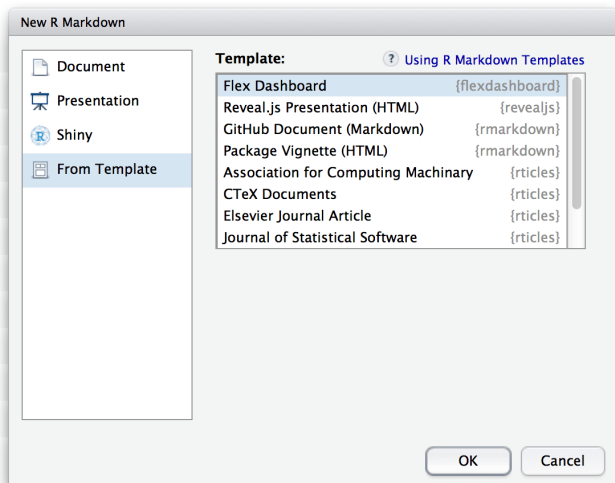
```
install.packages("flexdashboard", type = "source")
```

flexdashboard: Easy interactive dashboards for R

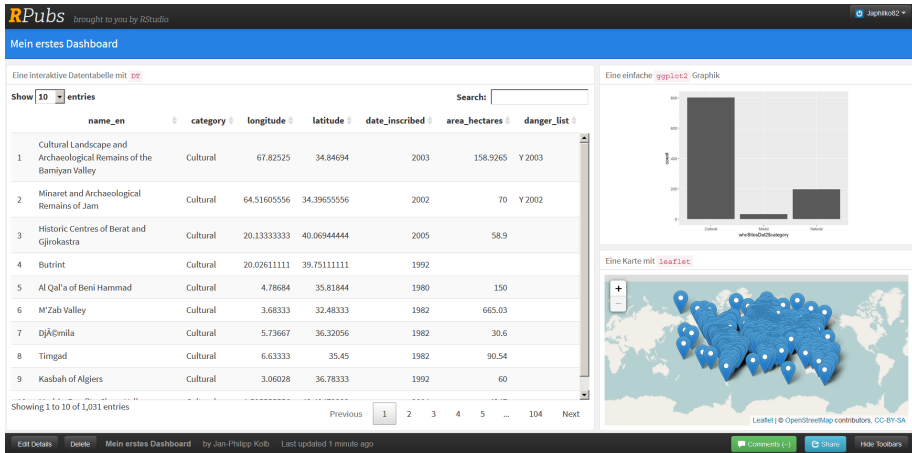
- Use [R Markdown](#) to publish a group of related data visualizations as a dashboard.
- Support for a wide variety of components including [htmlwidgets](#); base, lattice, and grid graphics; tabular data; gauges and value boxes; and text annotations.
- Flexible and easy to specify row and column-based [layouts](#). Components are intelligently re-sized to fill the browser and adapted for display on mobile devices.
- [Storyboard](#) layouts for presenting sequences of visualizations and related commentary.
- Optionally use [Shiny](#) to drive visualizations dynamically.



Ein Dashboard erstellen mit Rstudio



Mein erstes Dashboard



Links

- Rmarkdown **Formate**
- ******Verschiedene Markdown Dokumente zusammen fügen



55



I'm not sure this is exactly what you're looking for, but when I want to break a large report into separate Rmd, I usually create a parent Rmd and include the chapters as children. This approach is also easy for new users to understand. It doesn't create a nice title for each chapter, but as long as you include a toc, it is easy to navigate between chapters. One pitfall doing this is that all chunk names between all parent/children need to be unique.



report.Rmd

```
---  
title: My Report  
output:  
  pdf_document:  
    toc: yes  
---  
  
```${r child = 'chapter1.Rmd'}```  
```${r child = 'chapter2.Rmd'}```
```