

Integration of R into wikis - About - SlideWiki - Mozilla Firefox

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Integration of R into wikis: About - ZWiki - MediaWiki - Outlook >> >|

## Integration of R into Wikis [edit]

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at useR! 2006 - Vienna 16th June 2006

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Integration of R into wikis: About - **ZWiki** - MediaWiki - Outlook |< << >> >|

- [Zope](#) - Python based content management system
  - Used for institute and university web pages
- [ZWiki](#) - Wiki plugin for Zope
- [LatexWiki](#) - ZWiki with LaTeX plugin
  - BUT: development stopped at 25 May 2005
  - In the framework of the Multimedia-Förderprogramm 2004 of the Humboldt-Universität zu Berlin
    - For R and XploRe integration via external methods in Python developed
    - Development stopped because of LatexWiki
  - Example: <http://stirner.wiwi.hu-berlin.de:8080/slides/SYSVL/Overview> (german)
    - Integration of R output
    - Integration of (single) R graphics

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Integration of R into wikis: About - ZWiki - **MediaWiki** - Outlook |< << >> >|

StatWiki - Raw Output - HTML - Graphics - Interaction - Further plugins

- [MediaWiki](#) - the wiki software behind the [Wikipedia](#)
  - complicated LaTeX plug-in for math formulas (incl. amsmath)
 

$$\langle \mathit{aX+b} \rangle = aE(X) + b$$

$E(aX + b) = aE(X) + b$  (text rendering, if possible)

$$\langle \mathit{aX+b} \rangle = aE(X) + b$$

$E(aX + b) = aE(X) + b$  (graphics, if necessary)

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Integration of R into wikis: About - ZWiki - **MediaWiki** - Outlook |< << >> >|

**StatWiki** - Raw Output - HTML - Graphics - Interaction - Further plugins

- [StatWiki](#) - Wiki for students in basic courses in statistics (german)
  - like Wikipedia
- [TeachWiki](#) - Wiki for lecture theses in statistics (german & english)
  - good theses might be transferred to the [Wikibook in Statistics](#)
- Integration of results via PHP plugins
  - Raw output from R program
  - HTML output from R program
  - Graphical output from R program
  - Forms for interaction

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Integration of R into wikis: About - ZWiki - **MediaWiki** - Outlook  
StatWiki - **Raw Output** - HTML - Graphics - Interaction - Further plugins

Direct output

```
<R>1:20</R>
```

[1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Iframe output

```
<R iframe="width:100%;height:40px">1:20</R>
```

[1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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StatWiki - Raw Output - **HTML** - Graphics - Interaction - Further plugins

```
<R output="html" iframe="width:100%;height:250px;">
prob=0.15; nmin=1; nmax=15; x=6
m <- pbinom(rep(0:x, each = nmax-nmin+1), rep(nmin:nmax,x), prob)
dim(m) <- c(nmax-nmin+1,x+1)
m <- t(m)
colnames(m) <- format(nmin:nmax)
rownames(m) <- format(0:x)
outHTML(rhtml, m, title="x\n", format="f", digits=4)
</R>
```

| x\n | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15     |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0   | 0.8500 | 0.7225 | 0.6141 | 0.5220 | 0.4437 | 0.3771 | 0.3206 | 0.2725 | 0.2316 | 0.1969 | 0.1673 | 0.1422 | 0.1209 | 0.1028 | 0.0874 |
| 1   | 1.0000 | 0.9775 | 0.9392 | 0.8905 | 0.8352 | 0.7765 | 0.7166 | 0.6572 | 0.5995 | 0.5443 | 0.4922 | 0.4435 | 0.3983 | 0.3567 | 0.3186 |
| 2   | 1.0000 | 1.0000 | 0.9966 | 0.9880 | 0.9734 | 0.9527 | 0.9262 | 0.8948 | 0.8591 | 0.8202 | 0.7788 | 0.7358 | 0.6920 | 0.6479 | 0.6042 |
| 3   | 1.0000 | 1.0000 | 1.0000 | 0.9995 | 0.9978 | 0.9941 | 0.9879 | 0.9786 | 0.9661 | 0.9500 | 0.9306 | 0.9078 | 0.8820 | 0.8535 | 0.8227 |
| 4   | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 0.9996 | 0.9988 | 0.9971 | 0.9944 | 0.9901 | 0.9841 | 0.9761 | 0.9658 | 0.9533 | 0.9383 |
| 5   | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 0.9998 | 0.9994 | 0.9986 | 0.9973 | 0.9954 | 0.9925 | 0.9885 | 0.9832 |
| 6   | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 | 0.9997 | 0.9993 | 0.9987 | 0.9978 | 0.9964 | 0.9944 |

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Integration of R into wikis: About - ZWiki - **MediaWiki** - Outlook  
StatWiki - Raw Output - HTML - **Graphics** - Interaction - Further plugins

```
<R output="display" convert="-trim" iframe="width:400px;height:400px">
postscript(file=rps, horizontal=FALSE, width=5, height=5)
n <- 10
prob <- 0.2
x <- seq(0, n, 1)
p <- dbinom(x, n, prob)
param <- list(n, prob)
main <- c("Binomialverteilung - Dichtefunktion", paste(c("Stichprobenumfang n", "Wahrscheinlichkeit p"),
plot(x,p, type="h", main=main)
</R>
```

Binomialverteilung - Dichtefunktion  
Stichprobenumfang n=10  
Wahrscheinlichkeit p=0.2

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Integration of R into wikis: About - ZWiki - **MediaWiki** - Outlook  
StatWiki - Raw Output - HTML - Graphics - **Interaction** - Further plugins

```
<Rform name="binom">
n: <input name="n" type="text" size="5" maxlength="5" value="10">
prob: <input name="prob" type="text" size="5" maxlength="5" value="0.2">
<input type="submit" value=" Submit " > (You may need to reload the iframe below after submitting).
</Rform>
```

```
<R output="display" name="binom" convert="-trim" iframe="height:400px;">
if (exists("prob")) prob <- as.numeric(prob) else prob <- 0.2
if (exists("n")) n <- as.numeric(n) else n <- 10
x <- seq(0, n, 1)
p <- dbinom(x, n, prob)
param <- list(n, prob)
main <- c("Binomialverteilung - Wahrscheinlichkeitsfunktion", paste(c("Stichprobenumfang n", "Wahrscheinlichkeit p"),
plot(x,p, type="h", main=main)
dev.off()
</R>
```

n: 10 prob: 0.2 Submit (You may need to reload the iframe below after submitting).

Binomialverteilung - Wahrscheinlichkeitsfunktion  
Stichprobenumfang n=10  
Wahrscheinlichkeit p=0.2

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Integration of R into wikis: About - ZWiki - **MediaWiki** - Outlook  
StatWiki - Raw Output - HTML - Graphics - Interaction - **Further plugins** |<< >>|

- General plugins
  - LaTeX plugin
    - `<latex>...</latex>`
  - URL plugin
    - `<url src="...">regular expression</latex>`
  - NiceTable plugin
    - `<thp>...</thp>`
    - `<trp>...</trp>`
  - For StatWiki Index
    - Index plugin

navigation

- Main Page
- Community portal
- Current events
- Recent changes
- Random page
- Help
- Donations

search

Go Search

toolbox

- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link

Done

Integration of R into wikis - Outlook - SlideWiki - Mozilla Firefox

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Integration of R into wikis: About - ZWiki - MediaWiki - **Outlook** |<<

- Modifications suggested by Markus Cozowicz (Vienna)
  - `direct="true"`
  - `echo="true"`
- Rewrite PHP code as PHP class and streamline
- Security issues
- Saving and loading of workspaces
- Download [http://mars.wiwi.hu-berlin.de/mediawiki/sk/index.php/R\\_Plugin\\_for\\_MediaWiki](http://mars.wiwi.hu-berlin.de/mediawiki/sk/index.php/R_Plugin_for_MediaWiki)
- Wishes
  - Output like in Sweave
  - Rewrite of `OutHTML`, use of `R2HTML` or `xtable`
  - Integration of `Yxilon` and other statistical software
  - Interactive examples with sliders etc.

**A dream:** a *user driven* help system (for R)

navigation

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search

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