

Digital humanities

Cvičení: vizualizace dat

Jindřich Marek

Instalace knihoven

```
> install.packages("ggplot2movies")
```

```
> install.packages("ggplot2")
```

```
> install.packages("plotly")
```

```
> install.packages("devtools")
```

```
> devtools::install_github("gertstulp/ggplotgui")
```

Vizuální analýza: ggplotui

```
library(ggplotui)
```

```
ggplotui::ggplot_shiny(movies)
```

ggplot GUI

Data upload

- Load sample data
- Upload text file
- Paste data
- Data passed through R environment

For more info see the 'Info'-tab or visit <https://github.com/gerstulp/ggplotgui>

Data upload **ggplot** Plotly R-code Info

Show **10** entries Search:

	title	year	length	budget	rating	votes	r1	r2	r3	r4	r5	r6	r7	r8	r9	r10	mpaa	Action	Animation	Comedy	Drama	Documentary	Romance	Short	genre	decade
1	'G' Men	1935	85	450000	7.2	281	0	4.5	4.5	4.5	4.5	14.5	34.5	34.5	4.5	4.5		0	0	0	1	0	0	0	Drama	50s
2	'Manos' the Hands of Fate	1966	74	19000	1.6	7996	74.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	14.5		0	0	0	0	0	0	0	None	60s
3	'Til There Was You	1997	113	23000000	4.8	799	4.5	4.5	4.5	14.5	14.5	14.5	14.5	4.5	4.5	14.5	PG-13	0	0	1	0	0	1	0	Mixed	90s
4	.com for Murder	2002	96	5000000	3.7	271	64.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	14.5		0	0	0	0	0	0	0	None	90s
5	10 Things I Hate About You	1999	97	16000000	6.7	19095	4.5	4.5	4.5	4.5	4.5	14.5	24.5	14.5	14.5	14.5	PG-13	0	0	1	0	0	1	0	Mixed	90s
6	100 Mile Rule	2002	98	1100000	5.6	181	4.5	4.5	4.5	4.5	14.5	24.5	14.5	14.5	4.5	14.5	R	0	0	1	0	0	0	0	Comedy	90s
7	100 Proof	1997	94	140000	3.3	19	14.5	14.5	4.5	14.5	14.5	14.5	14.5	0	0	24.5		0	0	0	1	0	0	0	Drama	90s
8	101	1989	117	200000	7.8	299	4.5	0	4.5	4.5	4.5	4.5	4.5	14.5	14.5	45.5		0	0	0	0	1	0	0	Documentary	80s
9	101-vy kilometer	2001	103	200000	5.8	7	0	0	14.5	0	0	44.5	0	14.5	0	24.5		0	0	0	1	0	0	0	Drama	90s
10	102 Dalmatians	2000	100	85000000	4.7	1987	4.5	4.5	14.5	14.5	24.5	14.5	14.5	4.5	4.5	4.5		0	0	1	0	0	0	0	Comedy	90s

Showing 1 to 10 of 5,215 entries Previous 1 2 3 4 5 ... 522 Next

ggplot GUI

Create visualization

Type of graph:

Violin

Y-variable

year

X-variable

No x-var

Group (or colour)

No groups

Facet Row

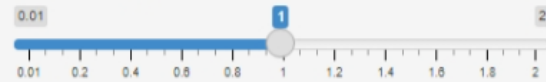
No groups

Facet Column

No groups

Show data points (jittered)

Bandwidth adjustment:



For more info see the 'Info'-tab or visit <https://github.com/gertstulp/ggplotgui>

Data upload

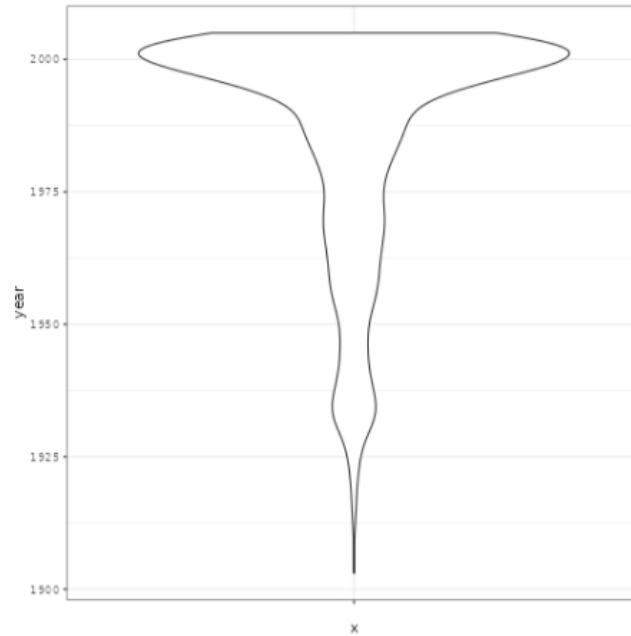
ggplot

Plotly

R-code

Info

Download pdf of figure



Change aesthetics

Text

Theme

Legend

Size

Change labels axes

Add title

Change font size

Rotate text x-axis

Change font

ggplot GUI

Create visualization

Type of graph:

Histogram

Y-variable

year

Group (or colour)

No groups

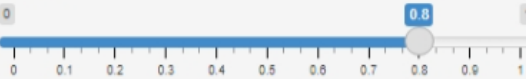
Facet Row

No groups

Facet Column

No groups

Opacity:



Binwidth:

1

For more info see the 'Info'-tab or visit <https://github.com/gertstulp/ggplotgui>

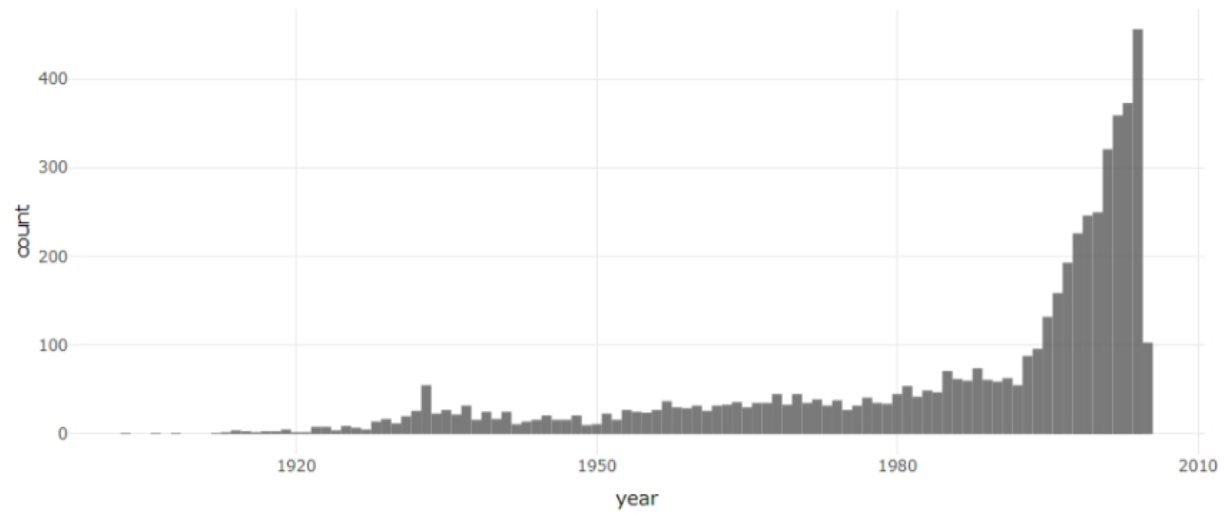
Data upload

ggplot

Plotly

R-code

Info



Change aesthetics

Text

Theme

Legend

Size

Change labels axes

Add title

Change font size

Rotate text x-axis

Change font

ggplot GUI

Create visualization

Type of graph:

Histogram ▼

Y-variable

year ▼

Group (or colour)

No groups ▼

Facet Row

No groups ▼

Facet Column

No groups ▼

Opacity:

0 0.8 1



Binwidth:

1

For more info see the 'Info'-tab or visit <https://github.com/gertstulp/ggplotgui>

Data upload ggplot Plotly R-code Info

```
## You can use the below code to generate the graph.  
## Don't forget to replace the 'df' with the name  
## of your dataframe  
  
# You need the following package(s):  
library("ggplot2")  
  
# The code below will generate the graph:  
graph <- ggplot(df, aes(x = year)) +  
  geom_histogram(position = 'identity', alpha = 0.8, binwidth = 1) +  
  theme_minimal()  
graph  
  
# If you want the plot to be interactive,  
# you need the following package(s):  
library("plotly")  
ggplotly(graph)  
  
# If you would like to save your graph, you can use:  
ggsave('my_graph.pdf', graph, width = 14, height = 14, units = 'cm')
```

Change aesthetics

Text Theme Legend Size

- Change labels axes
- Add title
- Change font size
- Rotate text x-axis
- Change font

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```

1 ## You can use the below code to generate the graph.
2 ## Don't forget to replace the 'df' with the name
3 ## of your dataframe
4
5 # Tyto dva řádky je třeba přidat:
6 library("ggplot2movies")
7 df <- movies
8
9 # You need the following package(s):
10 library("ggplot2")
11
12
13 # The code below will generate the graph:
14 graph <- ggplot(df, aes(x = year)) +
15   geom_histogram(position = 'identity', alpha = 0.8, binwidth = 1) +
16   theme_minimal()
17 graph
18
19 # If you want the plot to be interactive,
20 # you need the following package(s):
21 library("plotly")
22 ggplotly(graph)
23
24 # If you would like to save your graph, you can use:
25 ggsave('my_graph.pdf', graph, width = 14, height = 14, units = 'cm')

```

5:27 (Top Level) R Script

Console Terminal Background Jobs

```

R 4.3.3 . /cloud/project/
The following object is masked _by_ '.GlobalEnv':
  movies

Attaching package: 'plotly'

The following object is masked from 'package:ggplot2':
  last_plot

The following object is masked from 'package:stats':
  filter

The following object is masked from 'package:graphics':
  layout
> |

```

Environment History Connections Tutorial

Import Dataset 412 MiB

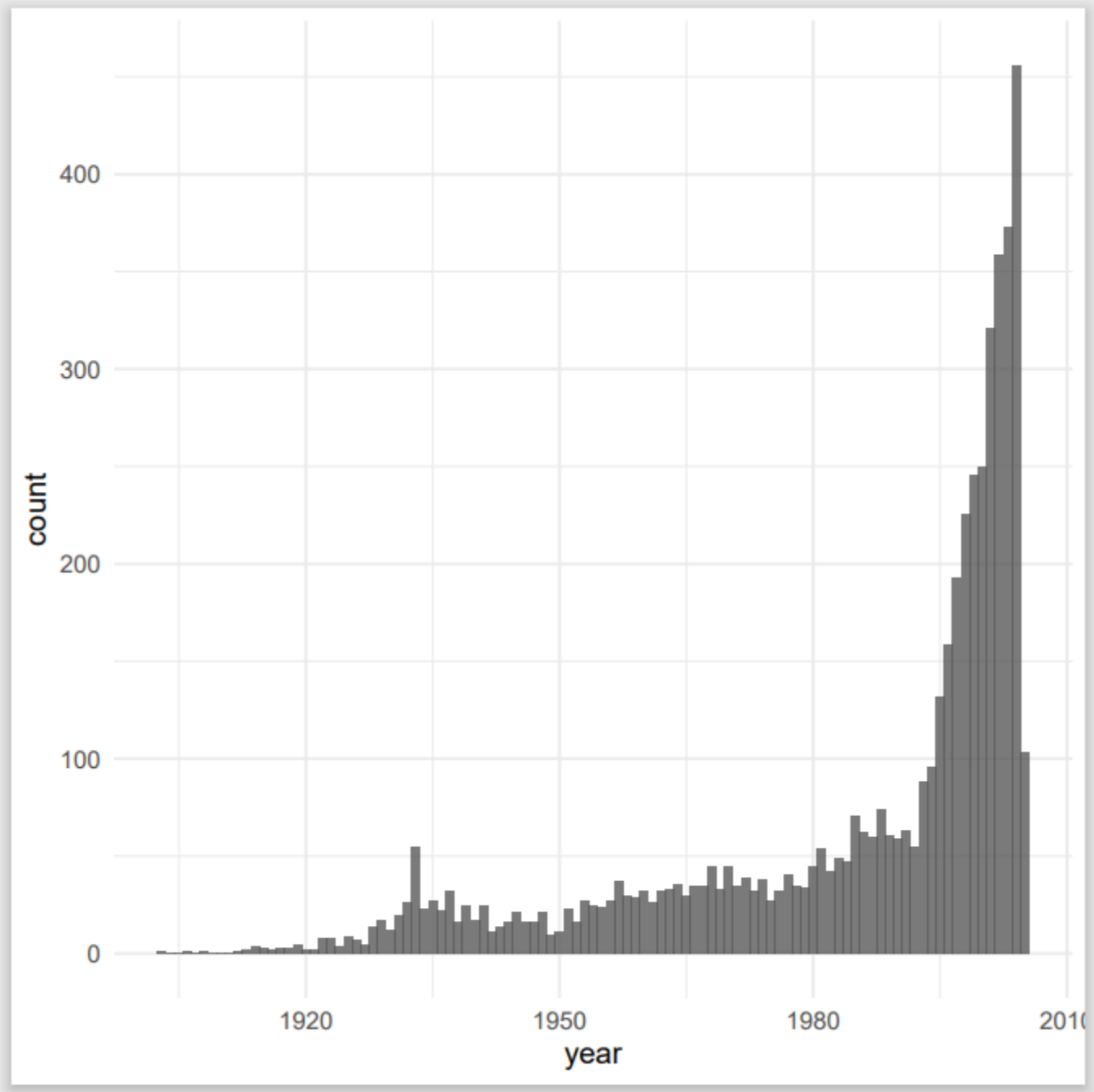
R Global Environment

Data	
df	5215 obs. of 26 variables
graph	Large gg (11 elements, 4.9 MB)
movies	5215 obs. of 26 variables
Values	
budget_millions	num [1:5215] 0.45 0.019 23 5 16 1.1 0.14 0.2 0.2 85 ...
count	num [1:5215] 1 0 2 0 2 1 1 1 1 ...
decade	chr [1:5215] "50s" "60s" "90s" "90s" "90s" "90s" "90s" "80s" "90s" ...
genre	chr [1:5215] "Drama" "None" "Mixed" "None" "Mixed" "Comedy" "Drama"...

Files Plots Packages Help Viewer Presentation

New Folder New Blank File Upload Delete Rename More

Name	Size	Modified
..		
.Rhistory	0 B	Mar 19, 2024, 1:10 PM
ggplot2movies_ggplot.R	2.1 KB	Mar 22, 2024, 11:35 AM
minard.R	1.6 KB	Mar 19, 2024, 1:12 PM
project.Rproj	205 B	Mar 22, 2024, 11:34 AM
snow_map1.R	1.5 KB	Mar 19, 2024, 1:11 PM
snow_map2.R	1.1 KB	Mar 19, 2024, 1:11 PM
ggplot2movies_ggplotgui.R	170 B	Mar 22, 2024, 11:34 AM
ggplot_generated.R	668 B	Mar 22, 2024, 11:45 AM
my_graph.pdf	5.2 KB	Mar 22, 2024, 11:46 AM



Podrobná analýza

- viz soubor `ggplot2movies_ggplot.R`

Length and Rating

