Practical 5 - Interactive plots

Osama Mahmoud

Getting started

Load the `movies` dataset from the `BristolVis` R package. The data can be called and viewed using:

```
data(bmov, package = "BristolVis")
head(bmov)
```

Scatter plots (15 minutes)

Let's start with some simple scatter plots using the `bmov` data:

1. Plot length Vs. rating using the advanced graphics package (`ggplot2`)
2. Use the `cut` function to generate a categorical form of the variable Year with sensible cutpoints.
3. Plot `length` Vs. `rating` such that points are coloured using categories of your generated timing
4. The default colors of the previous plot are terrible! use your own color selections to generate a better plot.
5. Generate an interactive plot of the plot in (4) using the plotly package and name it Fig_scatter.
6. Try to zoom in using your mouse by box selection to explore further detailed information.
7. Save your interactive plot as an html file.

Histograms (10 minutes)

1. Use the ggplot2 to plot a histogram of the movie years restricted to data after 1980.
2. Produce the same plot as in (1), but set the number of bins to 25.
3. Generate an interactive plot of the plot in (2) using the plotly package and name it `Fig_hist`.
4. Try to zoom in using your mouse by box selection to explore further detailed information and reset the plot (double-click).
5. Save your interactive plot as an html file.

Boxplots (10 minutes)

1. Generate a boxplot for the ratings data by generated categories of production timing using ggplot2.
2. Try generating a similar interactive boxplot.
3. save the interactive plot to an html file.

Corrlation matrix (15 minutes)

1. Use the built-in `iris` data to compute a correlation matrix and correlation p-values for the continous (first four) variables.

```
data(iris)
head(iris)
```

2. Visualize the correlation matrix using the method = “circle”.
3. Show the lower triangle using hierarchical clustering and square method rather than circle.
4. Use correlation significance level 0.01 to highlight the non-significant coefficient.
5. Use different shape - rather than the cross - to highlight the non-significant coefficient (use help of the function ggcorrplot by typing: `?ggcorrplot` to find out).
6. Add coeficient values on the plot in (3)
7. Produce interactive plot of the plot in (6).
8. Save the interactive plot in as html.