#Readin Bankomatdatensatz

bank <-read.table("http://www.trutschnig.net/Datensatz.txt",head=TRUE)

summary(bank)

#Readin RTR data (see https://www.netztest.at/de/Test for Background)

address <- url("http://www.trutschnig.net/RTR2015.RData")

load(address)

summary(RTR2015)

library(plotly)

library(dplyr)

Scatter

Galaxy = filter(RTR2015, device == "Galaxy Note 10.1")

plot\_ly(Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl, name = "default")

BUT: plot\_ly(Galaxy, x = ~op\_name, y = ~rtr\_speed\_dl, name = "default")

plot\_ly(Galaxy, x = ~op\_name, y = ~rtr\_speed\_dl)%>%

add\_markers(alpha = 0.9, name = "alpha")

plot\_ly(data = Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl, color = ~op\_name)

plot\_ly(data = Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl, color = ~op\_name, colors = c("red","green","blue"))

plot\_ly(Galaxy, x = ~longitude, y = ~rtr\_speed\_dl, name = "default")

subplot(

plot\_ly(Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl, name = "default"),

plot\_ly(Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl) %>%

add\_markers(alpha = 0.2, name = "alpha"),

plot\_ly(Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl) %>%

add\_markers(symbol = I(1), name = "hollow")

)

subplot(

plot\_ly(Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl, name = "default"),

plot\_ly(Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl) %>%

add\_markers(alpha = 0.9, name = "alpha"),

plot\_ly(Galaxy, x = ~rtr\_speed\_ul, y = ~rtr\_speed\_dl) %>%

add\_markers(symbol = I(2), name = "hollow")

)

Line Plots

plot\_ly(Galaxy, x = ~longitude, y = ~rtr\_speed\_dl) %>%

add\_lines(color = ~op\_name)

plot\_ly(Galaxy, x = ~longitude, y = ~rtr\_speed\_dl, type = 'scatter', mode = 'lines')

Histograms and Bars

plot\_ly(RTR2015, x = ~op\_name) %>% add\_histogram()

plot\_ly(RTR2015, x = ~op\_name, color = ~device\_platform) %>% add\_histogram()

plot\_ly(RTR2015, x = ~op\_name, y =~rtr\_speed\_dl, color = ~device\_platform) %>% add\_bars()

plot\_ly(RTR2015, x = ~device\_platform, color = ~op\_name) %>%

add\_histogram()

plot\_ly(RTR2015, x = ~device\_platform, y= ~device, color = ~op\_name) %>%

add\_bars() %>%

layout(barmode = "stack")

Boxplots

plot\_ly(Galaxy, y = ~rtr\_speed\_ul, type = "box") %>%

add\_trace(y = ~rtr\_speed\_dl)

plot\_ly(Galaxy, x = ~rtr\_speed\_ul, type = "box") %>%

add\_trace(x = ~rtr\_speed\_dl)

p <- plot\_ly(Galaxy, y = ~rtr\_speed\_dl, color = I("blue"),

alpha = 0.1, boxpoints = "suspectedoutliers")

p1 <- p %>% add\_boxplot(x = "Overall")

p2 <- p %>% add\_boxplot(x = ~op\_name)

subplot(

p1, p2, shareY = TRUE,

widths = c(0.2, 0.8), margin = 0

) %>% hide\_legend()

Exercises

Choose some other devices and visualize the correlation between download-Speed and Ping.

Galaxy = filter(RTR2015, device == "Galaxy S3")

plot\_ly(Galaxy, x = ~rtr\_speed\_dl, y = ~rtr\_ping, name = "default"

Starting from those data where op\_name = “Apple” – create a histogram showing the distribution of nw\_cat - create a barplot of nw\_cat and rtr\_Speed\_dl – create stacked bars which in addition also contain the device platform

Apple = filter(RTR2015, op\_name == "Apple")

plot\_ly(Apple, x = ~nw\_cat) %>%

add\_histogram()

plot\_ly(Apple, x = ~nw\_cat, y= ~rtr\_speed\_dl) %>%

add\_bars()

plot\_ly(Apple, x = ~nw\_cat, y= ~rtr\_speed\_dl, color = ~device\_platform) %>%

add\_bars() %>%

layout(barmode = "stack")

Use Boxplots to compare the Upload-Speed of devices that have LTE and the ones that don´t

yes = filter(RTR2015, device\_has\_lte == "TRUE")

no = filter(RTR2015, device\_has\_lte == "FALSE")

p1 = plot\_ly(Android, x = ~rtr\_speed\_ul, type = "box")

p2 = plot\_ly(ios, x = ~rtr\_speed\_ul, type = "box")

subplot(p1,p2)