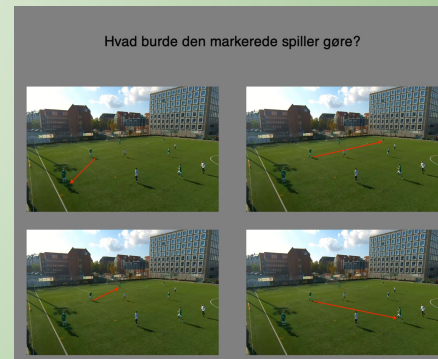# Reaction Times in Football

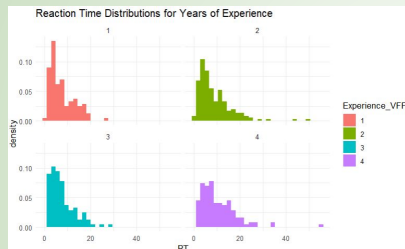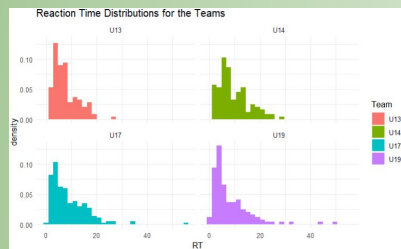## A comparison across teams & experience

WHERE DID OUR DATA COME FROM?
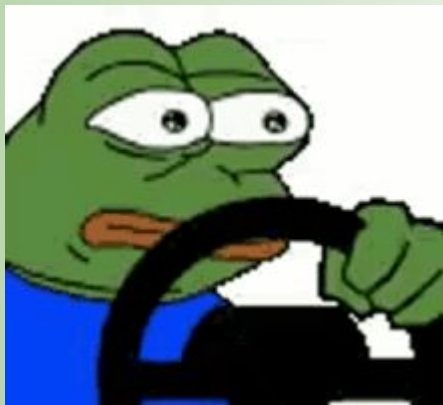
The Test

- – Motivation for the product
- – Video-based (data validity)
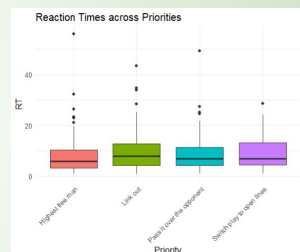- – Tactical Understanding
- – Why reaction times?

Hvad burde den markerede spiller gøre?

Data Exploration

Reaction Times are non-normal

Plots?

Shapiro-Wilk Test

Team <chr>	p_value <dbl>	W_statistic <dbl>
U13	5.719611e-08	0.8959505
U14	1.068369e-06	0.9189718
U17	3.767719e-14	0.8196355
U19	4.161867e-13	0.7627031

Experience_VFF <int>	p_value <dbl>	W_statistic <dbl>
1	5.073888e-08	0.8949357
2	4.608860e-14	0.8217078
3	8.056067e-09	0.8785825
4	6.406926e-11	0.8282184
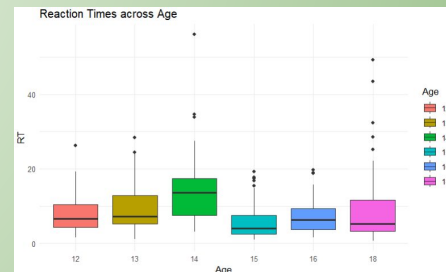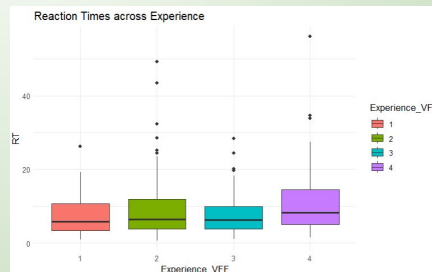
Methods

Non-parametric test

Correlation
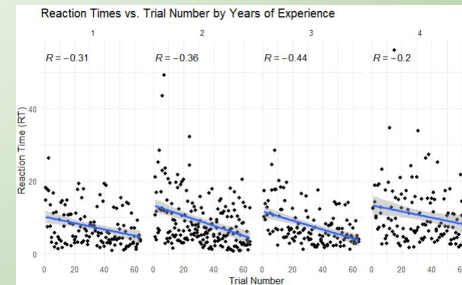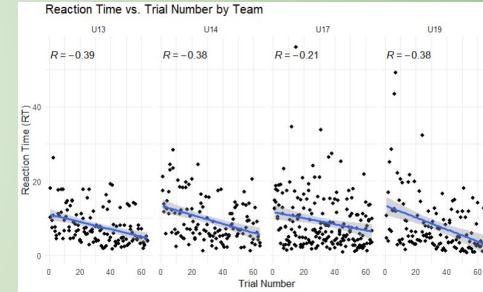


```
        Kruskal-Wallis rank sum test
data:  RT by Team
Kruskal-Wallis chi-squared = 10.484, df = 3, p-value = 0.01487
```
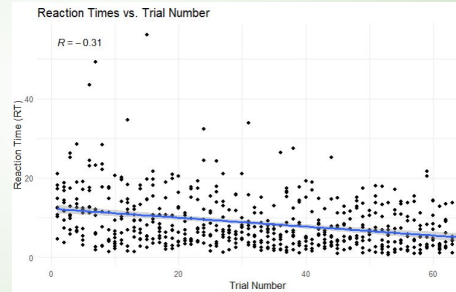
```
        Kruskal-Wallis rank sum test
data:  RT by Experience_VFF
Kruskal-Wallis chi-squared = 17.262, df = 3, p-value = 0.0006244
```

Results

Wilcoxon rank sum test

```
data:  combined_data$RT and combined_data$Team

    U13   U14   U17
U14 0.186 -     -
U17 1.000 0.753 -
U19 0.794 0.012 0.450

P value adjustment method: bonferroni
```

```
data:  combined_data$RT and combined_data$Experience_VFF

    1      2      3
2 0.9162 -      -
3 1.0000 1.0000 -
4 0.0009 0.0481 0.0036

P value adjustment method: bonferroni
```