Course Project: Shiny App Pitch

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General App Description

This App allows the user to predict tooth length of a pig depending on the dosage of vitamin C and on the delivery method of vitamin C. Two delivery methoda are considered: OJ - orange juice and VC - ascorbin acid. The data are taken from standard R data set ToothGrowth.

Available Regression Models

The User can decide between linear or quadratic prediction models. Model choice strongly influences the predictions. Here is an example for OJ and dosage $= 1$:

```
InputOJ <- ToothGrowth[ToothGrowth$supp == "OJ", ]
modelOJ_lin <- lm(len ~ dose, data = InputOJ)
modelOJ_quad <- lm(len ~ dose + I(dose^2),
                   data = InputOJ)
predict(modelOJ_lin, newdata = data.frame(dose = 1))
```

```
##        1
## 19.36143
```

```
predict(modelOJ_quad, newdata = data.frame(dose = 1))
```

```
##    1
## 22.7
```

Data used

```r
head(ToothGrowth)
```

```
##    len supp dose
## 1  4.2   VC  0.5
## 2 11.5   VC  0.5
## 3  7.3   VC  0.5
## 4  5.8   VC  0.5
## 5  6.4   VC  0.5
## 6 10.0   VC  0.5
```

```r
str(ToothGrowth)
```

```
## 'data.frame':    60 obs. of  3 variables:
##  $ len : num  4.2 11.5 7.3 5.8 6.4 10 11.2 11.2 5.2 7 ..
##  $ supp: Factor w/ 2 levels "OJ","VC": 2 2 2 2 2 2 2 2 2 2
##  $ dose: num  0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 ..
```

Resources

- ▶ The Application can be found under following link:

https://paulspringer.shinyapps.io/projectapp/

- ▶ Documentation of the application is included in application itself in tab "Documentation".

- ▶ The source code (ui.R and server.R) and this presentation can be found under:

https://github.com/PaulSpringer/datasciencecoursera