Scatterplots_AWdataprep

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24/01/2019

R Markdown

```
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# Data source: Health Data Collector App - AW data
# Output: ggplot/scatter plot

# First install knitr library
# Knitr allows you to manipulate data
```

```
library(knitr)
```

```
## Warning: package 'knitr' was built under R version 3.4.4
```

```
library(haven)
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 3.4.4
```

```
# Set working directory
setwd("C:/Thesis")
applewatch <- read.csv("health-data-Default.csv")
```

```
# Read Health Data Collector App data
applewatch <- read.csv("health-data-Default.csv")
```

```
# Summary of statistical descriptives of each variable
summary(applewatch)
```

```
##                          Username           DeviceName
##  herox3                      :19819   Apple Watch:25184
##  acceltrial@walkabilly.ca    : 3119
##  dfuller@mun.ca              : 1757
##  acceltrial2019@walkabilly.ca:  250
##  herox11                     :  171
##  fara                        :   63
##  (Other)                     :    5
##                  DateTime         Heart            Calories
##  2018-01-30 20:27:00:    3   Min.   :  0.000   Min.   :   0.0000
##  2018-01-30 20:28:00:    3   1st Qu.:  0.000   1st Qu.:   0.0000
##  2018-01-30 20:29:00:    3   Median :  0.000   Median :   0.0000
##  2018-01-30 20:30:00:    3   Mean   :  3.362   Mean   :   0.2585
##  2018-01-30 20:31:00:    3   3rd Qu.:  0.000   3rd Qu.:   0.0824
##  2018-01-30 20:32:00:    3   Max.   :188.000   Max.   :1212.0000
##  (Other)            :25166
##      Steps            Distance
```

```
##  Min.   :  0.000   Min.   :  0.000
##  1st Qu.:  0.000   1st Qu.:  0.000
##  Median :  0.000   Median :  0.000
##  Mean   :  3.393   Mean   :  2.567
##  3rd Qu.:  0.000   3rd Qu.:  0.000
##  Max.   :200.000   Max.   :188.197
##
```

```
summary(applewatch$DateTime)
```

```
## 2018-01-30 20:27:00 2018-01-30 20:28:00 2018-01-30 20:29:00
##                   3                   3                   3
## 2018-01-30 20:30:00 2018-01-30 20:31:00 2018-01-30 20:32:00
##                   3                   3                   3
## 2018-01-30 20:33:00 2018-01-30 20:34:00 2018-01-30 20:35:00
##                   3                   3                   3
## 2018-01-30 20:36:00 2018-01-30 20:37:00 2018-01-30 20:38:00
##                   3                   3                   3
## 2018-01-30 20:39:00 2018-01-30 20:40:00 2018-01-30 20:41:00
##                   3                   3                   3
## 2018-01-30 20:42:00 2018-01-30 20:43:00 2018-01-30 20:44:00
##                   3                   3                   3
## 2018-01-30 20:45:00 2018-01-30 20:46:00 2018-01-30 20:47:00
##                   3                   3                   3
## 2018-01-30 20:48:00 2018-01-30 20:49:00 2018-01-30 20:50:00
##                   3                   3                   3
## 2018-01-30 20:51:00 2018-01-30 20:52:00 2018-01-30 20:53:00
##                   3                   3                   3
## 2018-01-30 20:54:00 2018-01-30 20:55:00 2018-01-30 20:56:00
##                   3                   3                   3
## 2018-01-30 20:57:00 2018-01-30 20:58:00 2018-01-30 20:59:00
##                   3                   3                   3
## 2018-01-30 21:00:00 2018-01-30 21:01:00 2018-01-30 21:02:00
##                   3                   3                   3
## 2018-01-30 21:03:00 2018-01-30 21:04:00 2018-01-30 21:05:00
##                   3                   3                   3
## 2018-01-30 21:06:00 2018-01-30 21:07:00 2018-01-30 21:08:00
##                   3                   3                   3
## 2018-01-30 21:09:00 2018-01-30 21:10:00 2018-01-30 21:11:00
##                   3                   3                   3
## 2018-01-30 21:12:00 2018-01-30 21:13:00 2018-01-30 21:14:00
##                   3                   3                   3
## 2018-01-30 21:15:00 2018-01-30 21:16:00 2018-01-30 21:17:00
##                   3                   3                   3
## 2018-01-30 21:18:00 2018-01-30 21:19:00 2018-01-30 21:20:00
##                   3                   3                   3
## 2018-01-30 21:21:00 2018-01-30 21:22:00 2018-01-30 21:23:00
##                   3                   3                   3
## 2018-01-30 21:47:00 2018-01-30 21:48:00 2018-01-30 21:49:00
##                   3                   3                   3
## 2018-01-30 21:50:00 2018-01-30 21:51:00 2018-01-30 21:52:00
##                   3                   3                   3
## 2018-01-30 21:53:00 2018-01-30 21:54:00 2018-01-30 21:55:00
##                   3                   3                   3
## 2018-01-30 21:56:00 2018-01-30 21:57:00 2018-01-30 21:58:00
```

```
##                   3                   3                   3
## 2018-01-30 21:59:00 2018-01-30 22:00:00 2018-01-30 22:01:00
##                   3                   3                   3
## 2018-01-30 22:02:00 2018-01-30 22:03:00 2018-01-30 22:04:00
##                   3                   3                   3
## 2018-01-30 22:05:00 2018-01-30 22:06:00 2018-01-30 22:07:00
##                   3                   3                   3
## 2018-01-30 22:08:00 2018-01-30 22:09:00 2018-01-30 22:10:00
##                   3                   3                   3
## 2018-01-30 22:11:00 2018-01-30 22:12:00 2018-01-30 22:13:00
##                   3                   3                   3
## 2018-01-30 22:14:00 2018-01-30 22:15:00 2018-01-30 22:16:00
##                   3                   3                   3
## 2018-01-30 22:17:00 2018-01-30 22:18:00 2018-01-30 22:19:00
##                   3                   3                   3
## 2018-01-30 22:20:00 2018-01-30 22:21:00 2018-01-30 22:22:00
##                   3                   3                   3
## 2018-01-30 22:23:00 2018-01-30 22:24:00 2018-01-30 22:25:00
##                   3                   3                   3
## 2018-01-30 22:26:00 2018-01-30 22:27:00 2018-01-30 22:28:00
##                   3                   3                   3
##             (Other)
##               24887
```

```
summary(applewatch$Heart)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.000   0.000   0.000   3.362   0.000 188.000
```

```
summary(applewatch$Calories)
```

```
##      Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
##    0.0000    0.0000    0.0000    0.2585    0.0824 1212.0000
```

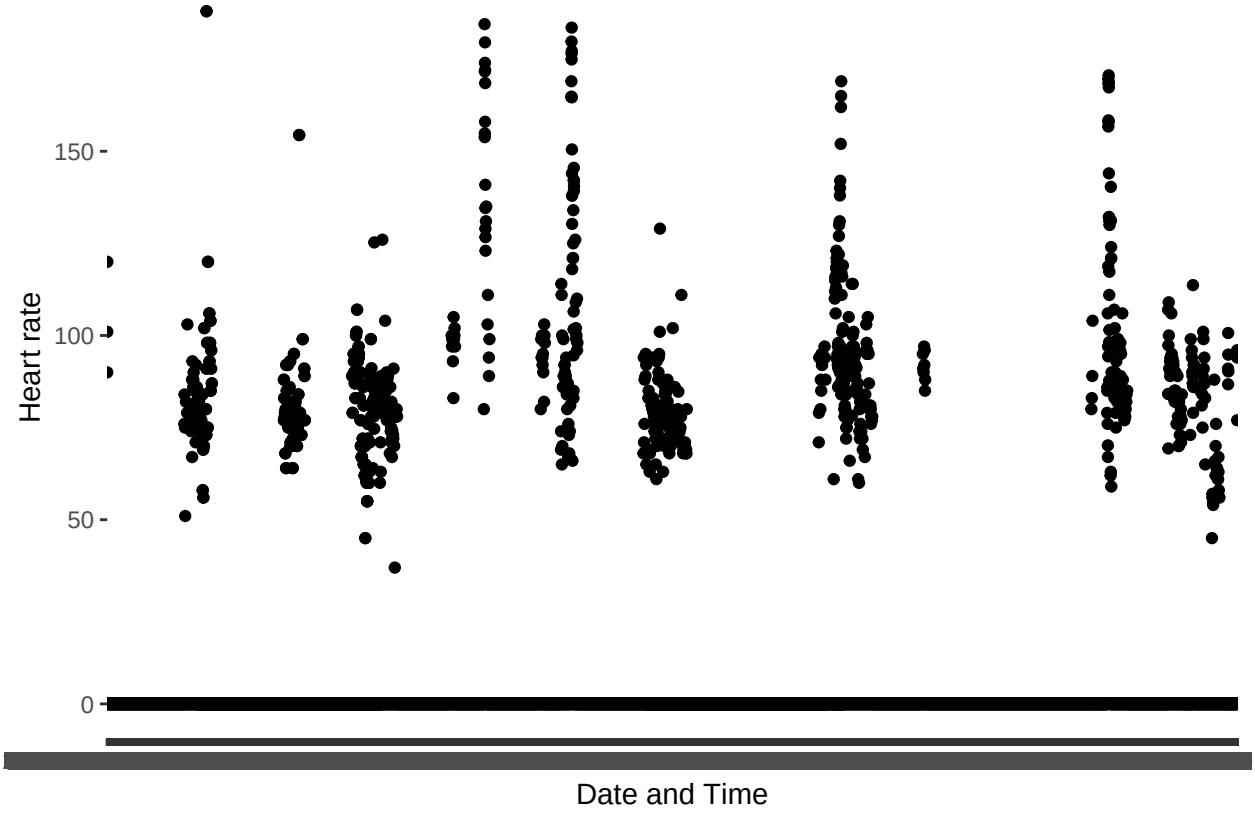
```
summary(applewatch$Steps)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.000   0.000   0.000   3.393   0.000 200.000
```

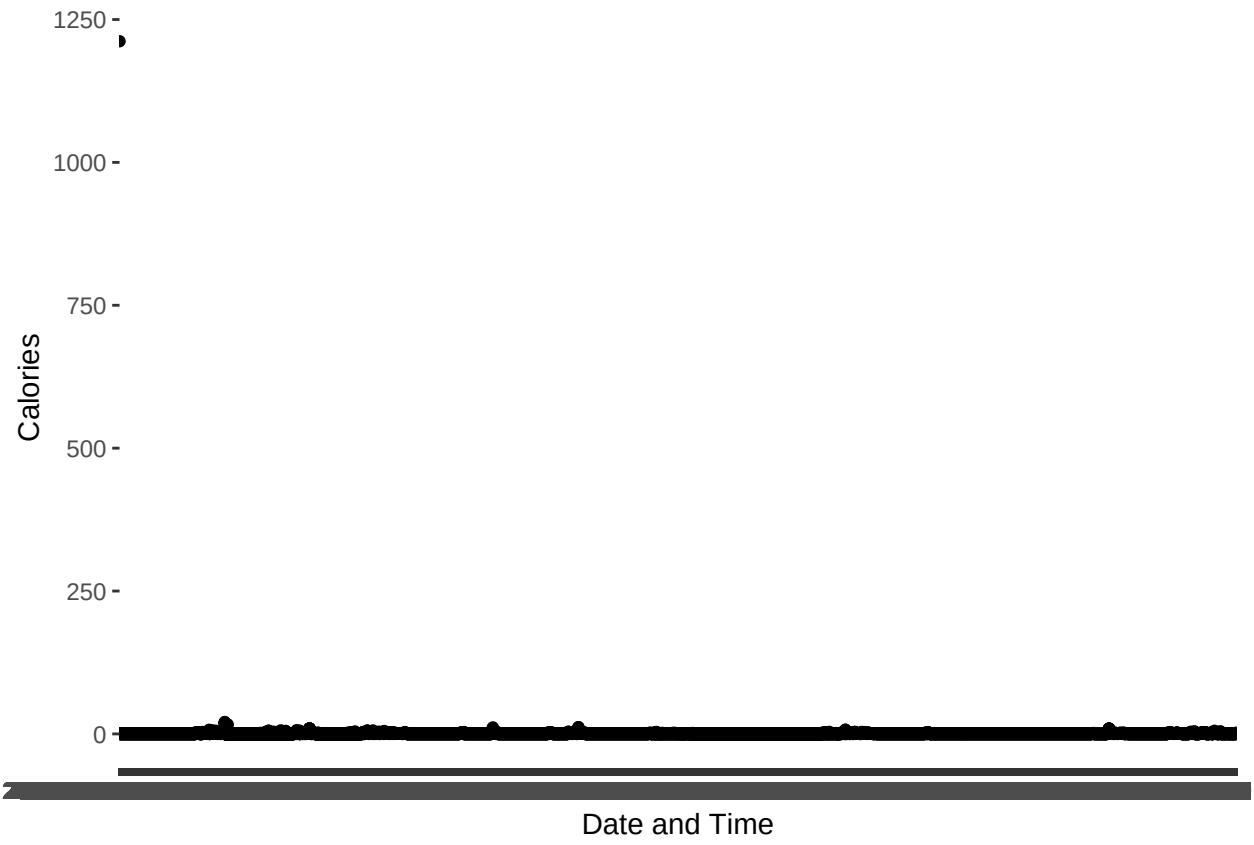
```
summary(applewatch$Distance)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##   0.000   0.000   0.000   2.567   0.000 188.197
```

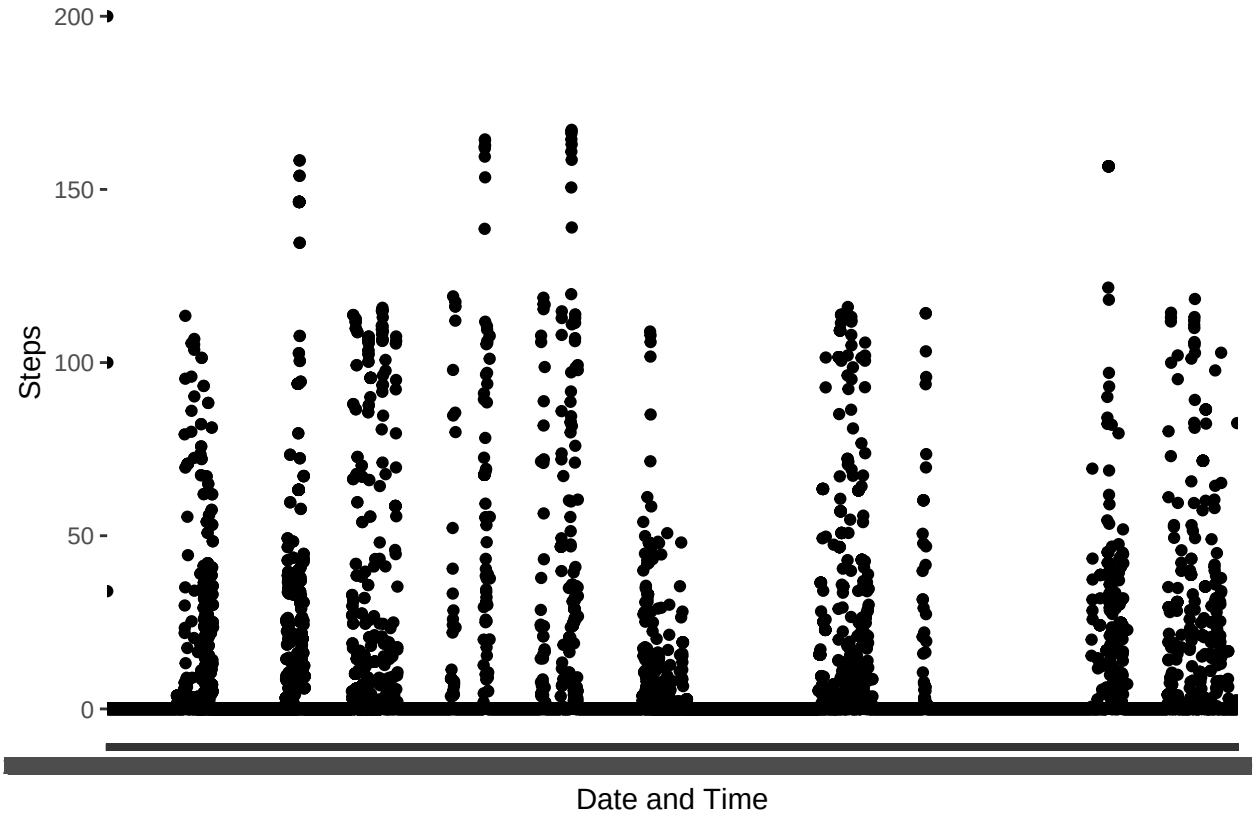
```
#Scatterplot of Heart rate vs. Time
scatter<- ggplot(applewatch, aes(x = DateTime, y = Heart)) +
  geom_point() +
  xlab("Date and Time")+
  ylab("Heart rate")
  plot(scatter)
```



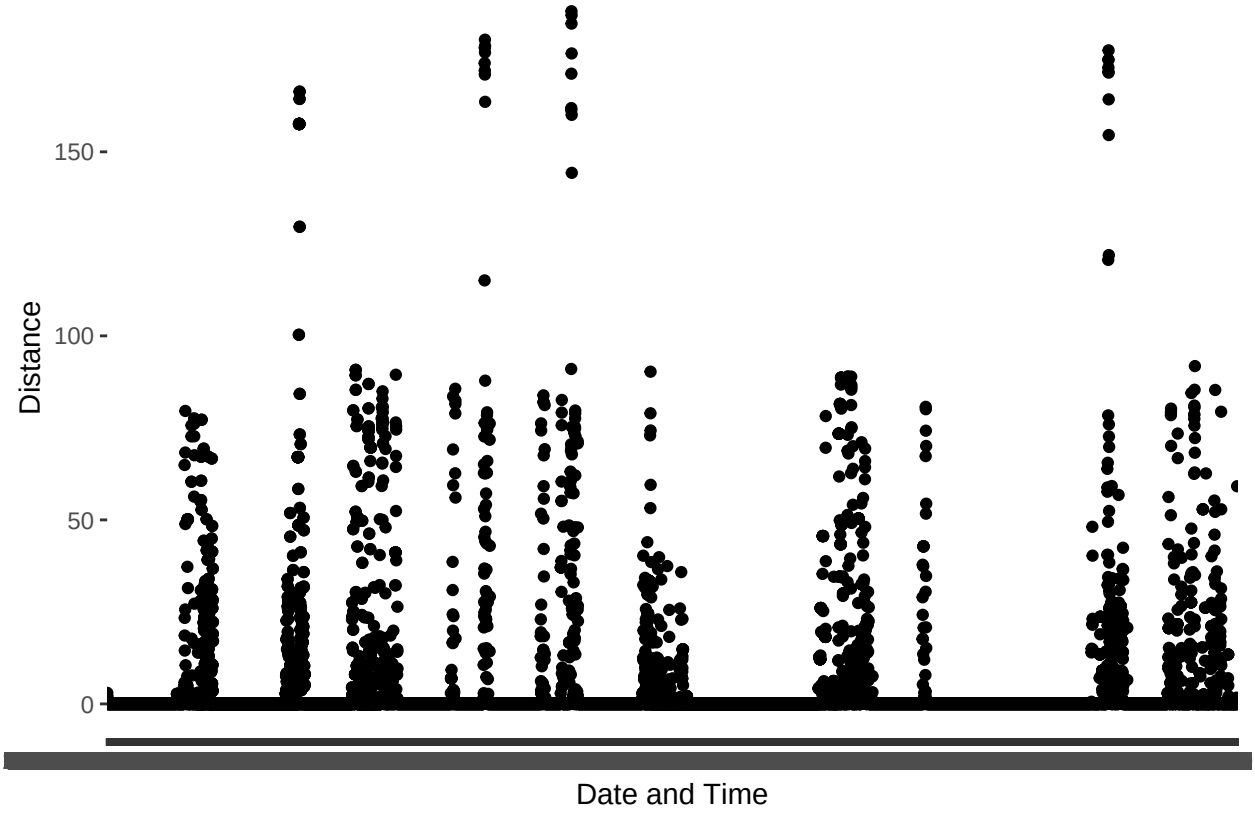

```
#Scatterplot of Calories vs. Time
  scatter<- ggplot(applewatch, aes(x = DateTime, y = Calories)) +
    geom_point() +
    xlab("Date and Time")+
    ylab("Calories")
  plot(scatter)
```




```
#Scatterplot of Steps vs. Time
  scatter<- ggplot(applewatch, aes(x = DateTime, y = Steps)) +
    geom_point() +
    xlab("Date and Time")+
    ylab("Steps")
  plot(scatter)
```




```
#Scatterplot of Distance vs. Time
  scatter<- ggplot(applewatch, aes(x = DateTime, y = Distance)) +
    geom_point() +
    xlab("Date and Time")+
    ylab("Distance")
  plot(scatter)
```


150
100
50
0
Distance
Date and Time