Web Data Collection with R

JavaScript Case Study

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The Queens Christmas Speeches

The Queens Christmas Speeches

Teaser

- god ssave the queen

some preparations

```r
require(stringr)
require(RSelenium)
require(rvest)
require(wordcloud)
```

some preparations

```r
url1 <- "http://www.royal.gov.uk/ImagesandBroadcasts"
url2 <- "/TheQueensChristmasBroadcasts/ChristmasBroadcasts"
url3 <- "/ChristmasBroadcast"
base_url <- str_c(url1, url2, url3)

# make directory to save files in
dir.create("Queens_Speeches", showWarnings = F)
```

starting up engines

```
checkForServer() # search for and download Selenium Server
# linux: https://christopher.su/2015/selenium-chromedriver-
# windows: make sure to use Java 64bit for R 64Bit !!!
```

starting up engines

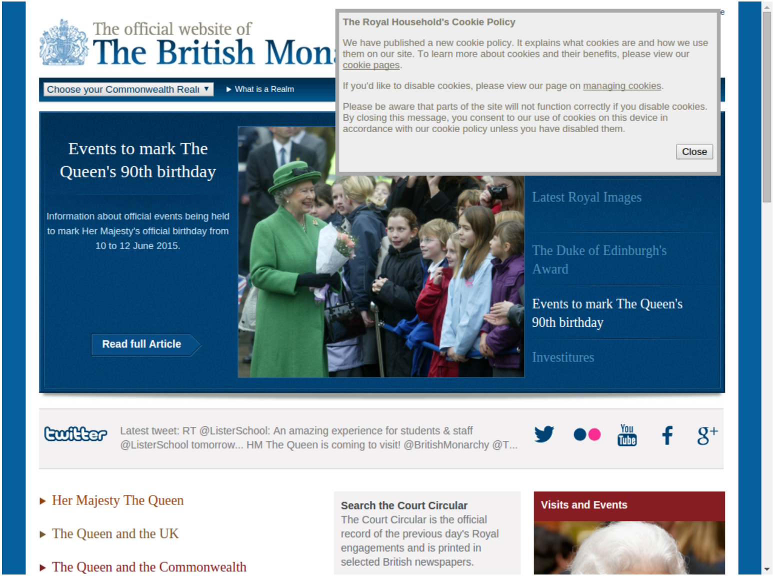
```r
startServer() # run Selenium Server binary
remDr <- remoteDriver(browserName="chrome", port=4444)
remDr$open()
remDr$navigate("http://www.royal.gov.uk/")

?remoteDriver
```

screen shot

```
remDr$screenshot(display = F,
                 useViewer=F,
                 file="screen1.png")
```

screen shot



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Events to mark The Queen's 90th birthday

Information about official events being held to mark Her Majesty's official birthday from 10 to 12 June 2015.

Latest tweet: RT @ListerSchool: An amazing experience for students & staff @ListerSchool tomorrow... HM The Queen is coming to visit! @BritishMonarchy @T...

Search the Court Circular
The Court Circular is the official record of the previous day's Royal engagements and is printed in selected British newspapers.

getting speeches

```
for(i in 1953:2015){
  url <- str_c(base_url, i, ".aspx")
  remDr$navigate(url)

  html   <- remDr$getPageSource()[[1]]
  parsed <- htmlParse(html)
  speech <- xpathSApply(parsed,
                        '//div[@id="content"]/p',
                        xmlValue)
  speech_short <- speech[2:length(speech)]
  write(speech_short, str_c("Queens_Speeches/", i, ".txt"))
}
```

text

```r
text  <- str_c(readLines("Queens_Speeches/2014.txt"),
               collapse="\n")
substring(text, 1, 150)
```

```
## [1] "In the ruins of the old Coventry Cathedral is a scu
```

some cleansing

```r
library(tm)
corpus <- tolower(text)
corpus <- removeNumbers(corpus)
corpus <- removeWords(corpus, stopwords('english'))
corpus <- stemDocument(corpus)
```

word frequencies

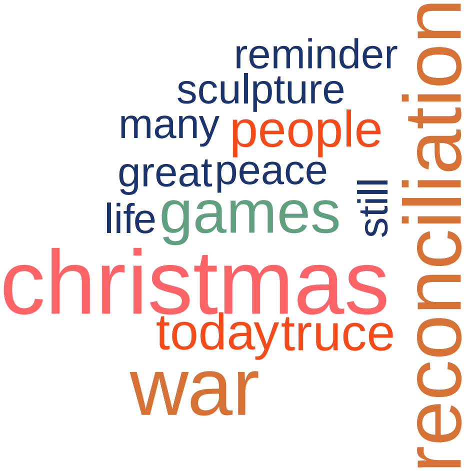
```
words <- unlist(str_split(corpus, "\\W"))
words <- words[words!="" & words!=" "]
tail(sort(table(words)),10)
```

```
## words
##       sculpture          still             us          pe
##               3              3              3
##           truce          games reconciliation
##               4              5              7
```

wordclouds

```
colors <- c("#CD8B34", "#89B151", "#01ABE9",
            "#1B346C", "#F54B1A", "#4B574D",
            "#609F80", "#AF420A", "#D67236",
            "#FD6467")
wordcloud(words, colors=colors)
```

wordclouds


reminder
sculpture
many
people
great
peace
still
life
games
christmas
today
truce
war
reconciliation

RSelenium alternative

- rdom / phantom.js
- https://github.com/cpsievert/rdom

Live Clicking // Remote Building