Module

shiny on flexdashboard

(wordcloud)

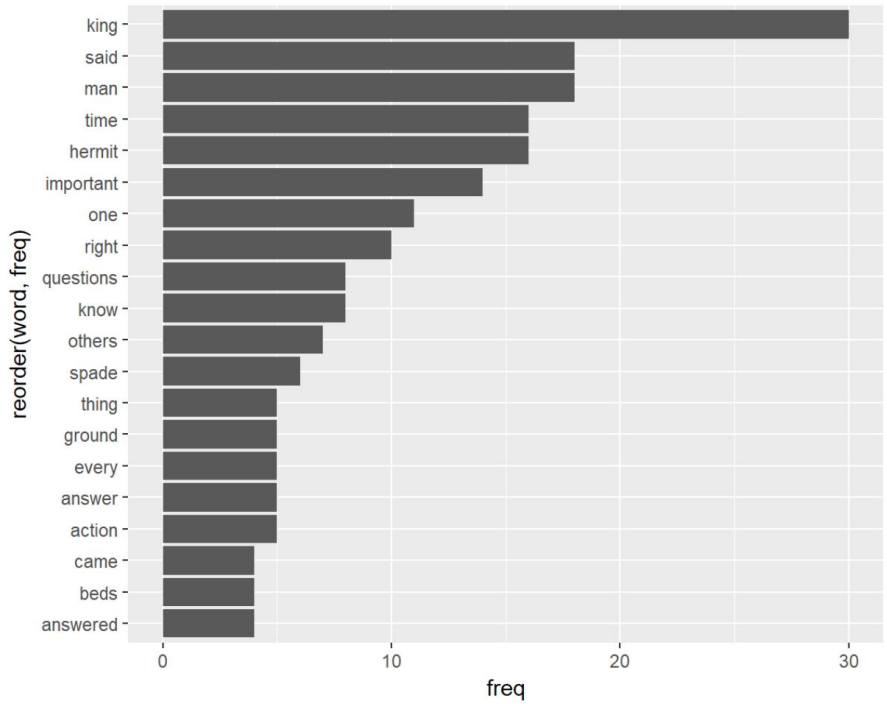
러닝스푼즈

2018년 4월

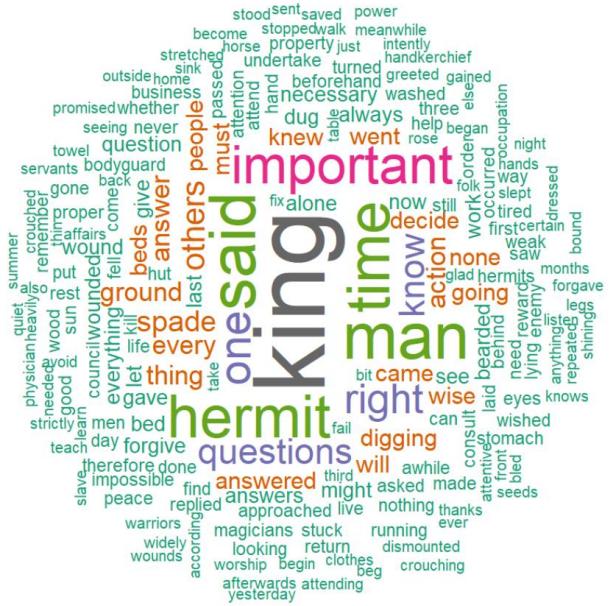
Review - Flexdashboard

Word Cloud | I have a dream - King | Three Questions | RainFall | Appeal | The Art of Loving | Choi

Boxplot



Word Cloud

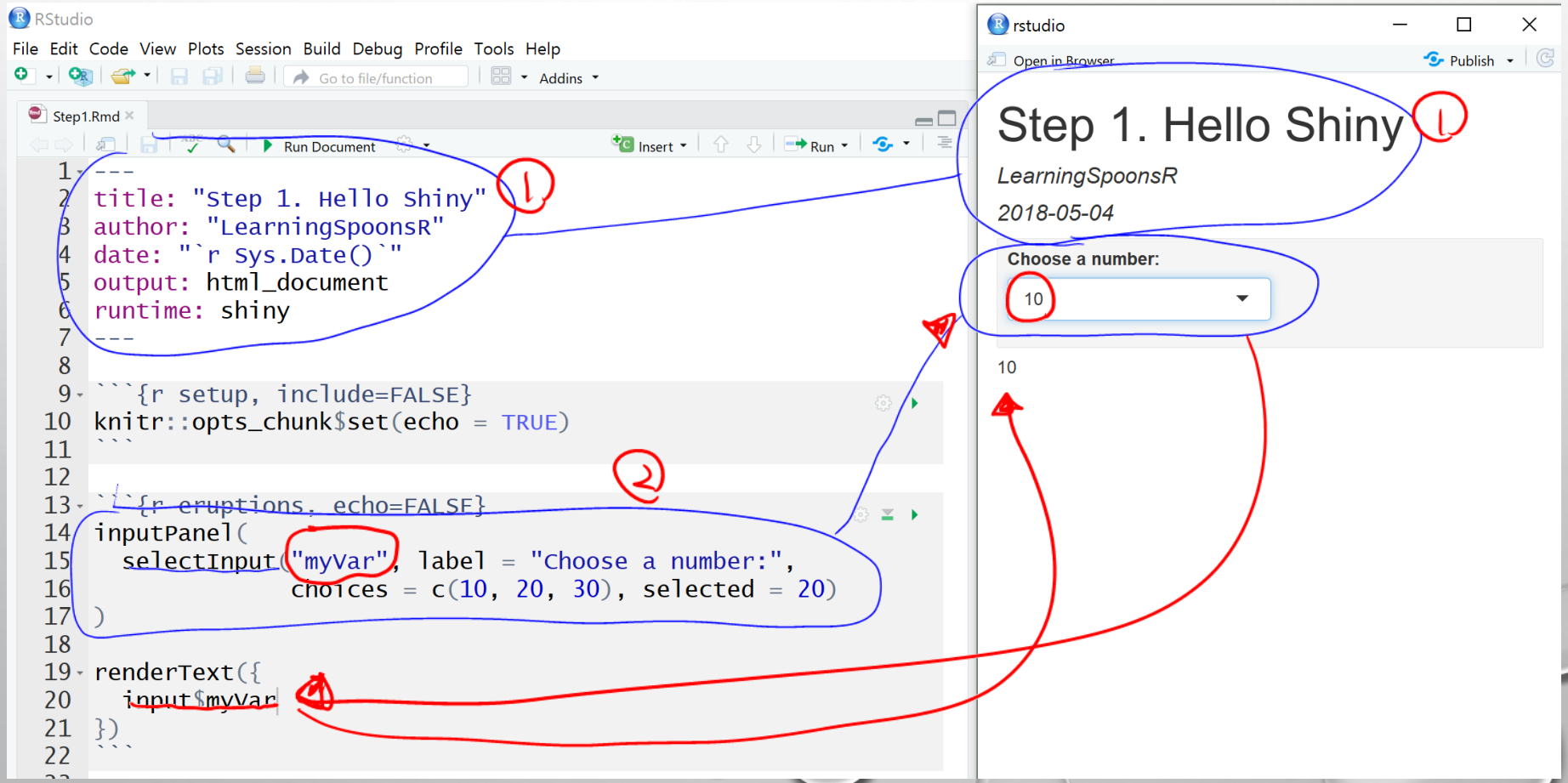


Preview – Shiny on Flexdashboard

여러분이 생각하는 *interactive*한 문서의 모습을 그려보세요.

Part I. "Hello Shiny"

- 파일 – 새파일 – 새 *R Markdown – Shiny*



Part II. "Hello Shiny" from flexdashboard

- 파일 – 새파일 – 새 *R Markdown – From Template - flexdashboard*

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function | Addins

Step1.Rmd | Step2.Rmd

Run Document | Insert

```
---
title: "Step 2. Hello Shiny from flexdashboard"
output:
  flexdashboard::flex_dashboard:
  runtime: shiny
---

Column {data-width=300}
-------------------------------------

### Input Panel

```{r}
selectInput("myVar", label = "Choose a number:",
            choices = c(10, 20, 30), selected = 20)
```


Column {data-width=700}

Output Panel

```{r}
renderPlot({
  hist(rnorm(1000), as.numeric(input$myVar))
})
```
```

rstudio

Open in Browser | Publish

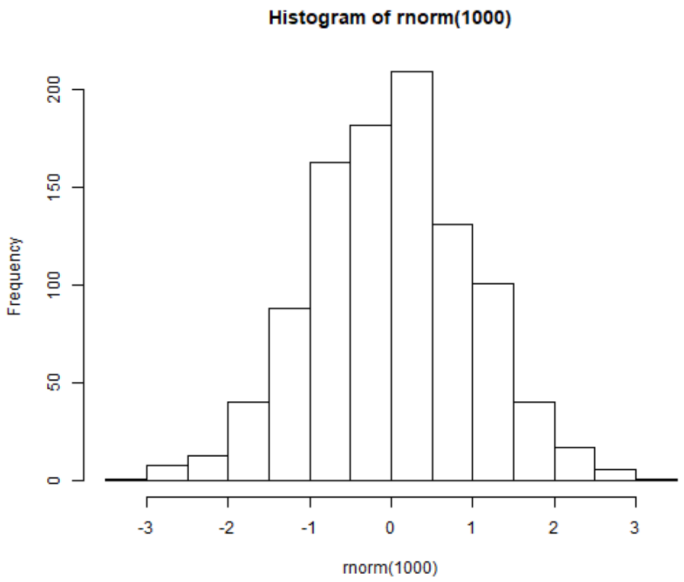
Step 2. Hello Shiny from flexdashboard

Input Panel

Choose a number:

20

Output Panel



Part III. Wordcloud

shiny + flexdashboard

Review – flexdashboard

```
---
title: "Word Cloud"
output: flexdashboard::flex_dashboard
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = FALSE)
knitr::opts_chunk$set(message = FALSE)
```

```{r}
source("LSR.R")
activate(c("tm", "SnowballC", "wordcloud", "KoNLP", "pdftools"))
activate(c("ggplot2", "dplyr", "RColorBrewer"))
```

I have a dream - King
=====================================

```{r}
filePath <- paste0("http://www.sthda.com/sthda/RDoc/example-files/",
                   "martin-luther-king-i-have-a-dream-speech.txt")
text <- readLines(filePath)
docs <- Corpus(VectorSource(text))
lang <- "en"
freqTable <- cleanDocsGenerateFreqTable(docs, lang)
```

Column {data-width=500}

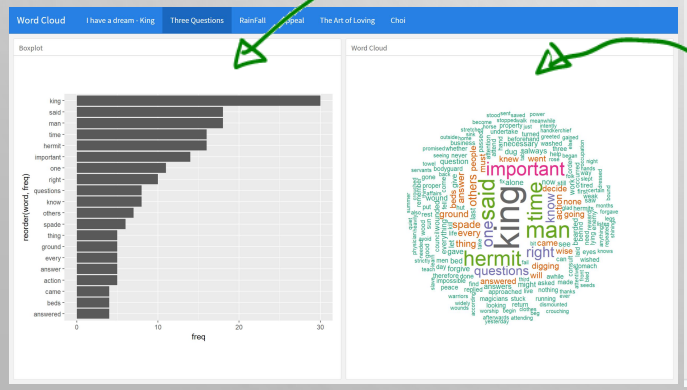
Boxplot

```{r}
ggplot(head(freqTable,20)) +
  geom_bar(aes(x=reorder(word, freq), y=freq), stat="identity") +
  coord_flip()
```

Column {data-width=500}

Word Cloud

```{r}
wordcloud(words = freqTable$word, freq = freqTable$freq,
          min.freq = 1, max.words=200, random.order=FALSE, rot.per=0.35,
          colors=brewer.pal(8, "Dark2"))
```

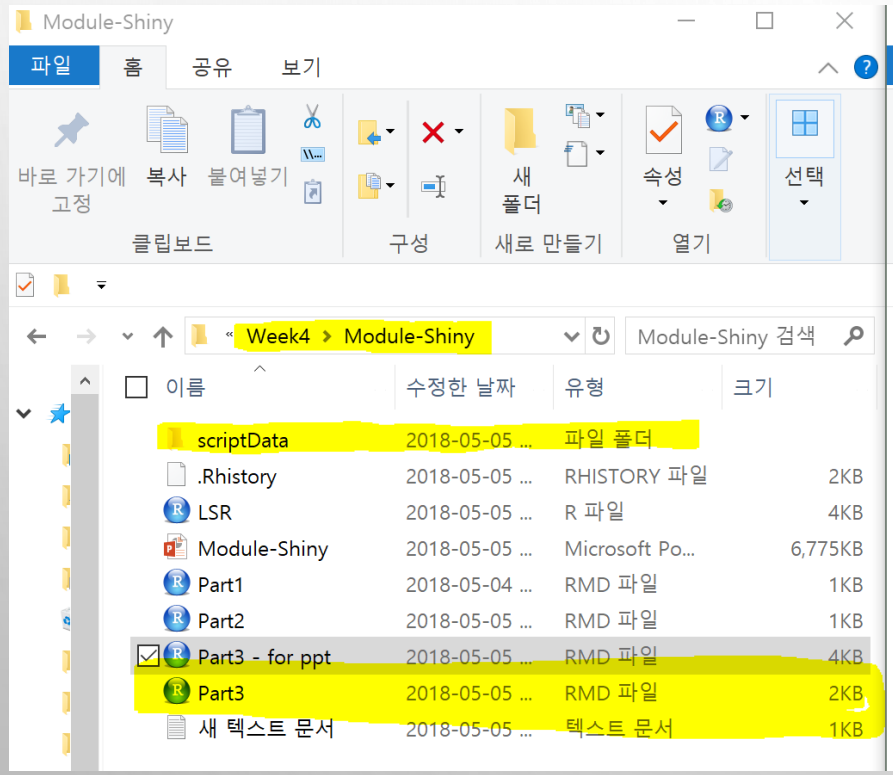

```

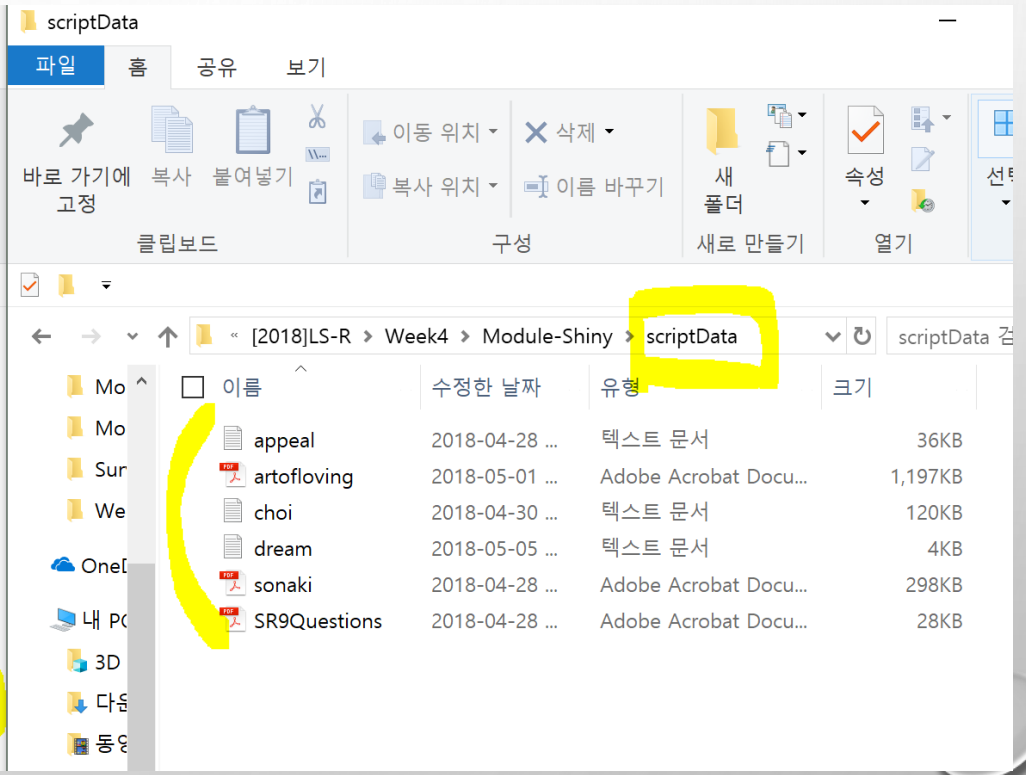
LSR.R에는 다음의 두 함수가 있습니다.

```r
cleanDocsGenerateFreqTable <- function(docs, lang) {
  activate(c("tm", "SnowballC", "wordcloud", "KoNLP", "pdftools"))
  activate(c("ggplot2", "dplyr", "RColorBrewer"))
  if (lang %in% c("Korean", "kr", "Kor")) {
    docs <- unlist(docs)
    docs <- Filter(function(x) {nchar(x) >= 2}, docs) # Character l
    freqTable <- data.frame(table(docs))
    names(freqTable) <- c("word", "freq")
    freqTable <- freqTable %>% arrange(desc(freq))
  } else { # lang %in% c("English", "en", "Eng")
    toSpace <- content_transformer(
      function (x , pattern) gsub(pattern, " ", x))
    docs <- docs %>%
      tm_map(toSpace, "/") %>%
      tm_map(toSpace, "@") %>%
      tm_map(toSpace, "\\|")
    docs <- docs %>%
      tm_map(content_transformer(tolower)) %>%
      tm_map(removeNumbers) %>%
      tm_map(removeWords, stopwords("english")) %>%
      tm_map(removeWords, c("blabla1", "blabla2")) %>%
      tm_map(removePunctuation) %>%
      tm_map(stripWhitespace)
    termMat   <- TermDocumentMatrix(docs)
    termTable <- as.matrix(termMat)
    freqTable <- data.frame(word = rownames(termTable),
                            freq = rowSums(termTable))
    freqTable$word <- rownames(freqTable)
    freqTable <- freqTable %>% arrange(desc(freq))
  }
  return(freqTable)
}
```

```r
getDocs <- function(fileName, lang) {
  activate(c("tm", "SnowballC", "wordcloud", "KoNLP", "pdftools"))
  activate(c("ggplot2", "dplyr", "RColorBrewer"))
  fileType <- unlist(strsplit(fileName, split = "\\."))[2]
  if (fileType == "pdf") {
    text <- pdf_text(fileName)
  } else if (fileType == "txt") {
    text <- readLines(fileName)
  } else {
    stop("We only support pdf and txt!")
  }
  if (lang %in% c("English", "en", "Eng")) {
    docs <- Corpus(VectorSource(text))
  } else if (lang %in% c("Korean", "kr", "Kor")) {
    docs <- sapply(text, extractNoun, USE.NAMES = F) %>% unlist()
    docs <- Filter(function(x) {nchar(x) >= 2}, docs)
  } else {
    stop("We only support English or Korean!")
  }
  return(docs)
}
```

작업 환경


Module-Shiny
파일
홈
공유
보기
바로 가기에 고정
복사
붙여넣기
클립보드
구성
새 폴더
새로 만들기
속성
열기
선택
Week4 › Module-Shiny
Module-Shiny 검색
이름
수정한 날짜
유형
크기
scriptData 2018-05-05 ... 파일 폴더
.Rhistory 2018-05-05 ... RHISTORY 파일 2KB
LSR 2018-05-05 ... R 파일 4KB
Module-Shiny 2018-05-05 ... Microsoft Po... 6,775KB
Part1 2018-05-04 ... RMD 파일 1KB
Part2 2018-05-05 ... RMD 파일 1KB
Part3 - for ppt 2018-05-05 ... RMD 파일 4KB
Part3 2018-05-05 ... RMD 파일 2KB
새 텍스트 문서 2018-05-05 ... 텍스트 문서 1KB


scriptData
파일
홈
공유
보기
바로 가기에 고정
복사
붙여넣기
이동 위치
복사 위치
삭제
이름 바꾸기
클립보드
구성
새 폴더
새로 만들기
속성
열기
[2018]LS-R › Week4 › Module-Shiny › scriptData
이름
수정한 날짜
유형
크기
appeal 2018-04-28 ... 텍스트 문서 36KB
artofloving 2018-05-01 ... Adobe Acrobat Docu... 1,197KB
choi 2018-04-30 ... 텍스트 문서 120KB
dream 2018-05-05 ... 텍스트 문서 4KB
sonaki 2018-04-28 ... Adobe Acrobat Docu... 298KB
SR9Questions 2018-04-28 ... Adobe Acrobat Docu... 28KB

Step 1.
Setup & Design Panel

```
---
title: "Step 3. Word Cloud (txt or pdf) (en or kr)"
author: LearningSpoonsR
output:
  flexdashboard::flex_dashboard:
  runtime: shiny
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = FALSE)
knitr::opts_chunk$set(message = FALSE)
source("LSR.R")
activate(c("tm", "SnowballC", "wordcloud2", "KoNLP", "pdftools"))
activate(c("ggplot2", "dplyr", "RColorBrewer"))
```

Inputs {.sidebar}

```{r}
```

Column {data-width=500}

Boxplot barplot

```{r}
```

Column {data-width=500}

Word Cloud

```{r}
```
```

Step 2.
Inputs sidebar

```
---
title: "Step 3. Word Cloud (txt or pdf) (en or kr)"
author: LearningSpoonsR
output:
  flexdashboard::flex_dashboard:
  runtime: shiny
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = FALSE)
knitr::opts_chunk$set(message = FALSE)
source("LSR.R")
activate(c("tm", "SnowballC", "wordcloud2", "KoNLP", "pdftools"))
activate(c("ggplot2", "dplyr", "RColorBrewer"))
```

Inputs {.sidebar}

```{r}
selectInput(inputId = "theFile", label = "Choose File",
            choice = list.files("scriptData"))
selectInput(inputId = "lang", label = "Language",
            choice = c("Korean", "English"))
```

Column {data-width=500}

Boxplot
```

Step 3. barplot

```
Inputs {.sidebar}
-------------------------------------

```{r}
selectInput(inputId = "theFile", label = "Choose File",
            choice = list.files("scriptData"))
selectInput(inputId = "lang", label = "Language",
            choice = c("Korean", "English"))
```

Column {data-width=500}

Boxplot

```{r}
renderPlot({
  docs <- getDocs(paste0("scriptData/", input$theFile), input$lang)
  freqTable <- cleanDocsGenerateFreqTable(docs, input$lang)
  g <- ggplot(head(freqTable,20)) +
    geom_bar(aes(x=reorder(word, freq), y=freq), stat="identity") +
    coord_flip()
  g
})
```
```

Step 4. wordcloud

```
Column {data-width=500}
-------------------------------------

### Boxplot

```{r}
renderPlot({
  docs <- getDocs(paste0("scriptData/", input$theFile), input$lang)
  freqTable <- cleanDocsGenerateFreqTable(docs, input$lang)
  g <- ggplot(head(freqTable,20)) +
    geom_bar(aes(x=reorder(word, freq), y=freq), stat="identity") +
    coord_flip()
  g
})
```

Column {data-width=500}

Word Cloud

```{r, warning = FALSE, fig.width = 8, fig.height = 8}
renderWordcloud2({
  docs <- getDocs(paste0("scriptData/", input$theFile), input$lang)
  freqTable <- cleanDocsGenerateFreqTable(docs, input$lang)
  # w <- wordcloud(words = freqTable$word, freq = freqTable$freq,
  #                min.freq = 1, max.words=200, random.order=FALSE,
rot.per=0.35,
  #                colors=brewer.pal(8, "Dark2"))
  wordcloud2(freqTable)
})
```
```

https://cran.r-project.org/web/packages/wordcloud2/vignettes/wordcloud.html

프로그램 시연!

Part IV. More Shiny on Flexdashboard

Control Widgets

Function	Widget	비고
checkboxGroupInput	A group of check boxes	복수선택 가능
checkboxInput	A single check box	Boolean
dateInput	A calendar to aid date selection	
dateRangeInput	A pair of calendars for selecting a date range	
numericInput	A field to enter numbers	
radioButtons	A set of radio buttons	복수선택 불가
selectInput	A box with choices to select from	드랍다운 메뉴
sliderInput	A slider bar	
textInput	A field to enter text	
submitButton	A submit button	

http://shiny.rstudio.com/gallery/widget-gallery.html

Action button

Action

Current Value:

```
[1] 0
attr(,"class")
[1] "integer"                "shinyActionButtonValue"
```

See Code

Single checkbox

Choice A

Current Value:

```
[1] TRUE
```

See Code

Checkbox group

Choice 1
Choice 2
Choice 3

Current Values:

```
[1] "1"
```

See Code

Date input

2014-01-01

Current Value:

```
[1] "2014-01-01"
```

See Code

Date range

2018-05-06 to 2018-05-06

Current Values:

```
[1] "2018-05-06" "2018-05-06"
```

See Code

File input

Browse... No file selected

Current Value:

```
NULL
```

See Code

Numeric input

1

Current Value:

```
[1] 1
```

See Code

Radio buttons

Choice 1
Choice 2
Choice 3

Current Values:

```
[1] "1"
```

See Code

Select box

Choice 1

Current Value:

```
[1] "1"
```

See Code

Slider

0 50 100

0 10 20 30 40 50 60 70 80 90 100

Current Value:

```
[1] 50
```

See Code

Slider range

0 25 75 100

0 10 20 30 40 50 60 70 80 90 100

Current Values:

```
[1] 25 75
```

See Code

Text input

Enter text...

Current Value:

```
[1] "Enter text..."
```

See Code

Rendering

renderText	
renderTable	
renderPlot	
renderDygraph	
renderWordCloud2	
…	

https://shiny.rstudio.com/tutorial/