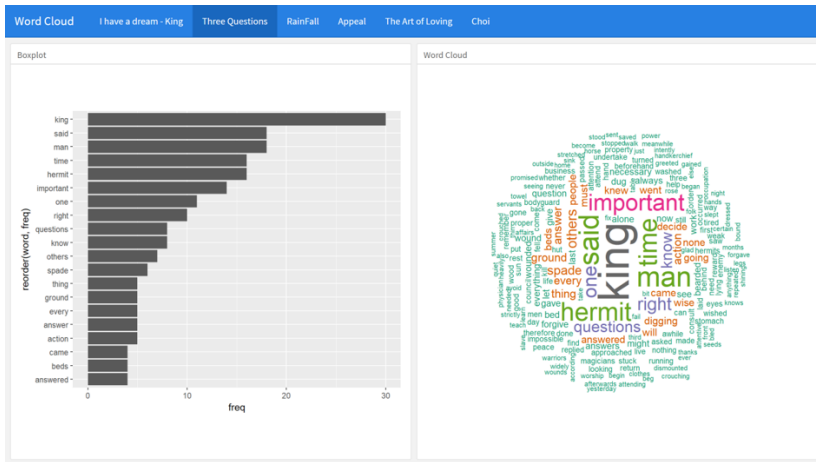


M33 - Shiny

LearningSpoonsR

2018-07-08

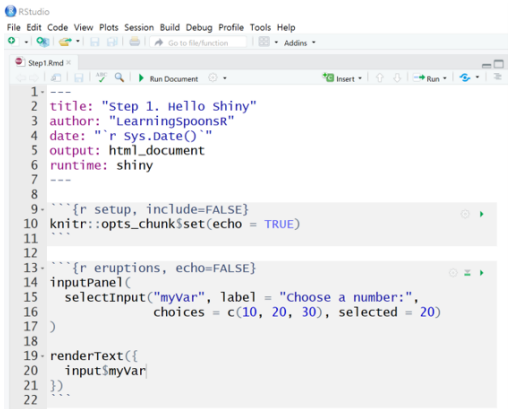
Review - Flexdashboard



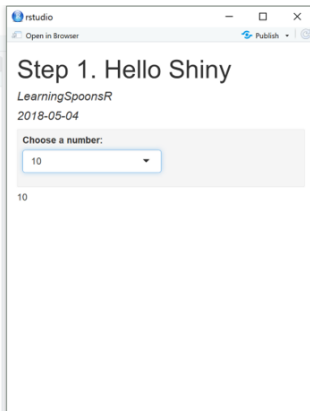
- Interactive한 feature를 추가한다면, 대시보드는 어떤 모양이어야 할까요?

Part I. "Hello, Shiny!"

- 파일 - 새파일 - 새 R Markdown - Shiny



```
1 ---
2 title: "Step 1. Hello shiny"
3 author: "LearningSpoonsR"
4 date: "`r Sys.Date()`"
5 output: html_document
6 runtime: shiny
7 ---
8
9 ```{r setup, include=FALSE}
10 knitr::opts_chunk$set(echo = TRUE)
11 ```
12
13 ```{r eruptions, echo=FALSE}
14 inputPanel(
15   selectInput("myVar", label = "choose a number:",
16             choices = c(10, 20, 30), selected = 20)
17 )
18
19 renderText({
20   input$myVar
21 })
22
```



Part II. “Hello shiny” from flexdashboard

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

The screenshot displays the RStudio interface with two main panels. The left panel shows the R Markdown source code for 'Step2.Rmd', and the right panel shows the rendered Shiny application.

R Markdown Source Code (Left Panel):

```
1 ---
2 title: "Step 2. Hello Shiny from flexdashboard"
3 output:
4   flexdashboard::flex_dashboard:
5     runtime: shiny
6 ---
7
8 column {data-width=300}
9 -----
10
11 ### Input Panel
12
13 {r}
14 selectInput("myVar", label = "Choose a number:",
15             choices = c(10, 20, 30), selected = 20)
16
17
18 column {data-width=700}
19 -----
20
21 ### Output Panel
22
23 {r}
24 renderPlot({
25   hist(rnorm(1000), as.numeric(input$myVar))
26 })
27
28
```

Rendered Shiny Application (Right Panel):

The application is titled "Step 2. Hello Shiny from flexdashboard". It features an "Input Panel" with a dropdown menu labeled "Choose a number:" with the value "20" selected. The "Output Panel" displays a histogram titled "Histogram of rnorm(1000)". The x-axis is labeled "rnorm(1000)" and ranges from -3 to 3. The y-axis is labeled "Frequency" and ranges from 0 to 200. The histogram shows a normal distribution centered at 0.

Shiny 실행시 주의점

1. 에러가 난다면 Tools - Check for Package Updates...로 가서 모든 패키지를 최신 상태로
2. `activate`와 같이 패키지를 인스톨하는 명령이나 시스템을 변경시키는 명령은 실행 전에 하는 것이 좋음
3. 컴퓨터가 인터넷에 연결이 되어있지 않으면 정상적으로 작동하지 않는 경우가 있음

Part III. Wordcloud using fd & shiny

```
1 ---
2 title: "Word Cloud Program on Shiny"
3 author: LearningSpoonsR
4 output:
5   flexdashboard::flex_dashboard:
6     runtime: shiny
7   ---
8
9   ```{r setup, include=FALSE}
10  knitr::opts_chunk$set(echo = FALSE)
11  knitr::opts_chunk$set(message = FALSE)
12  #-----#
13  #----- 1.Source & Package -----#
14  #-----#
15  ```
16
17 Inputs {.sidebar}
18 -----
19
20 ```{r}
21 #-----#
22 #----- 2.Taking Input -----#
23 #-----#
24 ```
25
```

```
26 Column {data-width=500}
27 -----
28
29 ### Barplot
30
31 ```{r}
32 renderPlot({
33   #-----#
34   #----- 3.Render Barplot -----#
35   #-----#
36 })
37 ```
38
39 Column {data-width=500}
40 -----
41
42 ### Word Cloud
43
44 ```{r, warning = FALSE, fig.width=18, fig.height=18}
45 renderWordcloud2({
46   #-----#
47   #----- 4.Render Wordcloud -----#
48   #-----#
49 })
50 ```
```

1. Source & Package & 2. Taking Input

```
9  ```{r setup, include=FALSE}
10 knitr::opts_chunk$set(echo = FALSE)
11 knitr::opts_chunk$set(message = FALSE)
12 source(".././LSR.R")
13 setLang("kr")
14 library(tm); library(SnowballC); library(KoNLP); library(pdftools); library(cld3)
15 library(ggplot2); library(dplyr); library(wordcloud2); library(RColorBrewer)
16 ```
17
18 Inputs {.sidebar}
19 -----
20
21 ```{r}
22 selectInput(inputId = "theFile", label = "Choose a file",
23             choice = list.files("../script/"))
24 ```
25
```


3.Render Barplot & 4.Render Wordcloud

```
26 Column {data-width=500}
27 -----
28
29 ### Barplot
30
31 ```{r}
32 renderPlot({
33   docs <- getDocs2(paste0("../script/", input$theFile))
34   freqTable <- cleanDocsGenerateFreqTable(docs, attr(docs, "lang"))
35   g <- ggplot(head(freqTable,20)) +
36     geom_bar(aes(x = reorder(word, freq), y = freq), stat="identity") +
37     theme(axis.text = element_text(size = 16)) +
38     labs(x = "Word", y = "Frequency") +
39     coord_flip()
40   print(g)
41 })
42 ```
43
44 Column {data-width=500}
45 -----
46
47 ### Word Cloud
48
49 ```{r, warning = FALSE, fig.width=18, fig.height=18}
50 renderWordcloud2({
51   docs <- getDocs2(paste0("../script/", input$theFile))
52   freqTable <- cleanDocsGenerateFreqTable(docs, attr(docs, "lang"))
53   w <- wordcloud2(freqTable, color = "random-light", backgroundColor = "grey")
54   print(w)
55 })
56 ```
```

시연

Part IV. Control Widgets & Rendering

- Control Widgets
- <http://shiny.rstudio.com/gallery/widget-gallery.html>

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

Action button

Action

Current Value:

```
[1] @  
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

2018-05-08 to 2018-05-08

Current Values:

[1] "2018-05-08" "2018-05-08"

[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



Current Value:

[1] 50

[See Code](#)

Slider range



Current Values:

[1] 25 75

[See Code](#)

Text input

Enter text...

Current Value:

[1] "Enter text..."

[See Code](#)

- `renderOBJECT` 함수를 이용해서 결과물을 보여줌.
- (기본적인것 외에 패키지에서 제공하는 `render`함수도 있음)

- `renderOBJECT` 종류

1. `renderText`
2. `renderTable`
3. `renderPlot`
4. `renderDygraph`
5. `renderWordClouds`
6. ...

- <https://shiny.rstudio.com/tutorial/>

```
"Hello"
```