DHRUV GARG 16 BCE 1190

DATA VISUALIZATION
SHINY WEB APPLICATION

1st SHINY WEB EXAMPLE: Hello world

Code

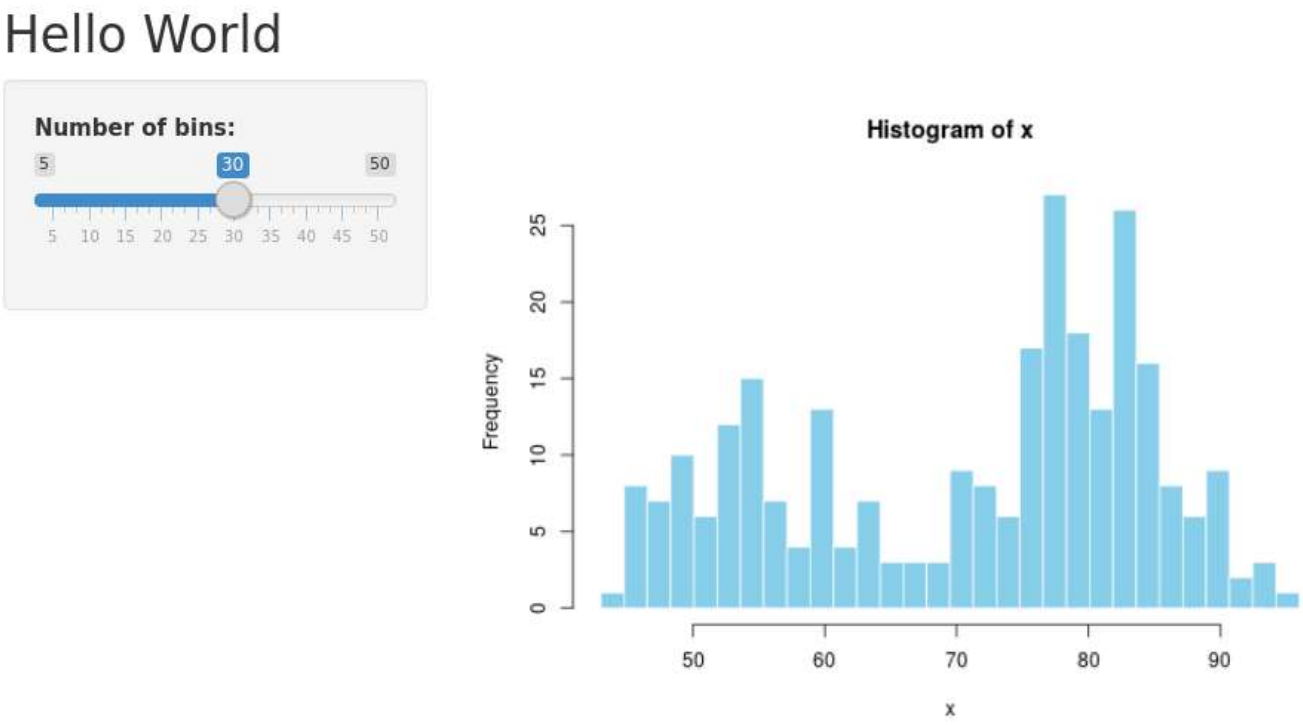
Ui.R

```
library(shiny)

# Define UI for application that draws a histogram
shinyUI(fluidPage(

  # Application title
  titlePanel("Hello World"),

  sidebarLayout(
    sidebarPanel(
      sliderInput("bins",
                  "Number of bins:",
                  min = 5,
                  max = 50,
                  value = 30)
    ),

    # Show a plot of the generated distribution
    mainPanel(
      plotOutput("distPlot")
    )
  )
))
```

Server.R

```
library(shiny)

# Define server logic required to draw a histogram
shinyServer(function(input, output) {
  output$distPlot <- renderPlot({
    x    <- faithful[, 2]
    bins <- seq(min(x), max(x), length.out = input$bins + 1)
    hist(x, breaks = bins, col = 'skyblue', border = 'white')
  })
})
```

SCREENSHOT



2nd SHINY WEB EXAMPLE: Title-bar and side-bar

Code

Ui.R

```
library(shiny)

# Define UI for application that draws a histogram
shinyUI(fluidPage(

  # Application title
  titlePanel("Title panel"),

  sidebarLayout(position = "right",
    sidebarPanel("Sidebar panel"),
    mainPanel("Main panel"))
  ))
```

Server.R

```
library(shiny)
# Define server logic
shinyServer(function(input, output) {
})
```

SCREENSHOT

3rd SHINY EXAMPLE: Headers

Code

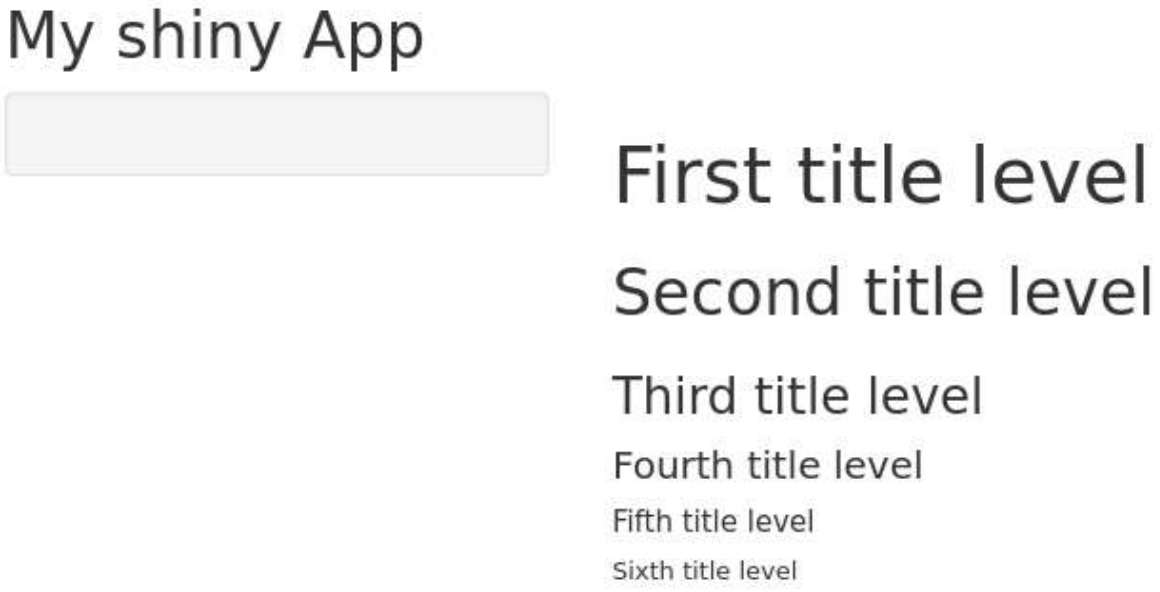
Ui.R

```
library(shiny)

shinyUI(fluidPage(

 # Application title
 titlePanel("My shiny App"),

 sidebarLayout(
  sidebarPanel(),
  mainPanel(
   h1("First title level"),
   h2("Second title level"),
   h3("Third title level"),
   h4("Fourth title level"),
   h5("Fifth title level"),
   h6("Sixth title level"))
  ))
)
```

Server.R

```
library(shiny)

# Define server logic required to draw a histogram
shinyServer(function(input, output) {

})
```

SCREENSHOT



4th SHINY WEB EXAMPLE: Controls

Code

Ui.R

```
library(shiny)

# Define UI
shinyUI(fluidPage(

 # Application title
 titlePanel("Basic widgets"),

 fluidRow(
  column(3,
      h3("Buttons"),
      actionButton("action", label="Action"),
      br(),
      br(),
      submitButton("Submit")),
  column(3,
      checkboxGroupInput("checkGroup",
                  label = h3("Checkbox group"),
                  choices = list("Choice 1" = 1,
                           "Choice 2" = 2, "Choice 3" = 3),
```

```
                    selected = 1)),
  column(3,
      dateInput("date",
            label = h3("Date input"),
            value = "2018-02-28"))
 ),

 fluidRow(
  column(3,
      dateRangeInput("dates", label = h3("Date range"))),
  column(3,
      helpText("Note: help text isnt a true widget,",
            "It provides an easy way to add text to",
            "accompany other widgets.")),
  column(3,
      numericInput("num",
            label = h3("Numeric input"),
            value = 1))
 ),
 fluidRow(
  column(3,
      radioButtons("radio", label = h3("Radio buttons"),
            choices = list("choice 1" = 1, "choice 2" = 2,
                  "choice 3" = 3), selected = 1)),
  column(3,
      sliderInput("slider1", label = h3("Sliders"),
            min = 0, max = 100, value = 40),
      sliderInput("slider 2", "",
            min = 0, max = 100, value = c(25,75))
      ),
  column(3,
      textInput("text", label = h3("Text input"),
            value = "Enter text..."))
 )
 )
 )
```

Server.R

```
library(shiny)

# Define server logic required to draw a histogram
shinyServer(function(input, output) {

})
```

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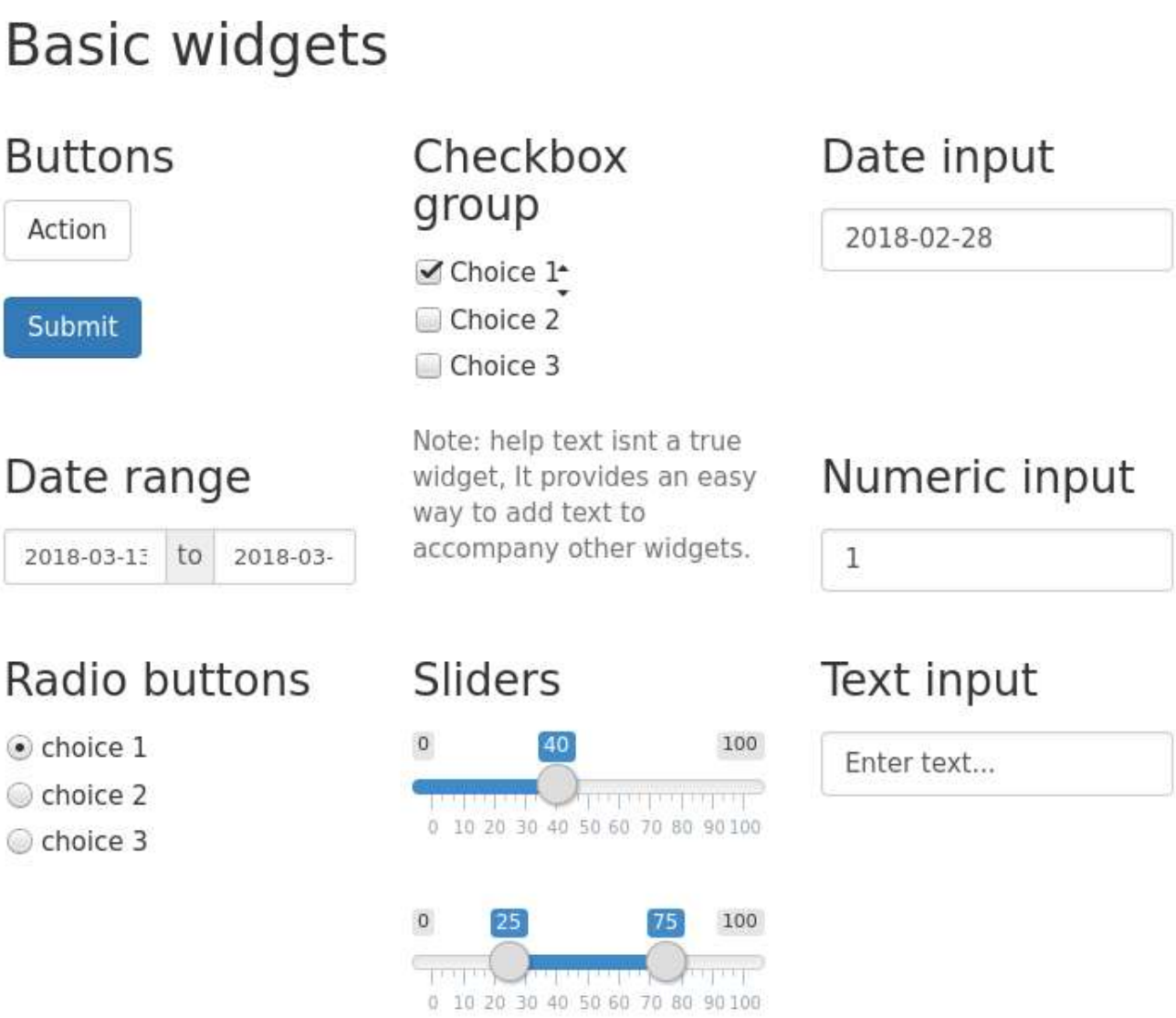
SCREENSHOT



SHINY WEB APP: TELEPHONES BY REGION

Dataset: "WorldPhones" from the pre-installed R library called "datasets"

Code

Ui.R

```
# Rely on the 'WorldPhones' dataset in the datasets
library(datasets)

# Use a fluid Bootstrap layout
fluidPage(
  # Give the page a title
  titlePanel("Telephones by region"),
```

```
  # Generate a row with a sidebar
  sidebarLayout(
    # Define the sidebar with one input
    sidebarPanel(
      selectInput("region", "Region:",
                  choices=colnames(WorldPhones)),
      hr(),
      helpText("Data from AT&T (1961) The World's Telephones.")
    ),

    # Create a spot for the barplot
    mainPanel(
      plotOutput("phonePlot")
    )
  )
)
```

Server.R

```
library(datasets)

# Define a server for the Shiny app
function(input, output) {
  # Fill in the spot we created for a plot
  output$phonePlot <- renderPlot({

    # Render a barplot
    barplot(WorldPhones[,input$region]*1000,
            main=input$region,
            ylab="Number of Telephones",
            xlab="Year")
  })
}
```

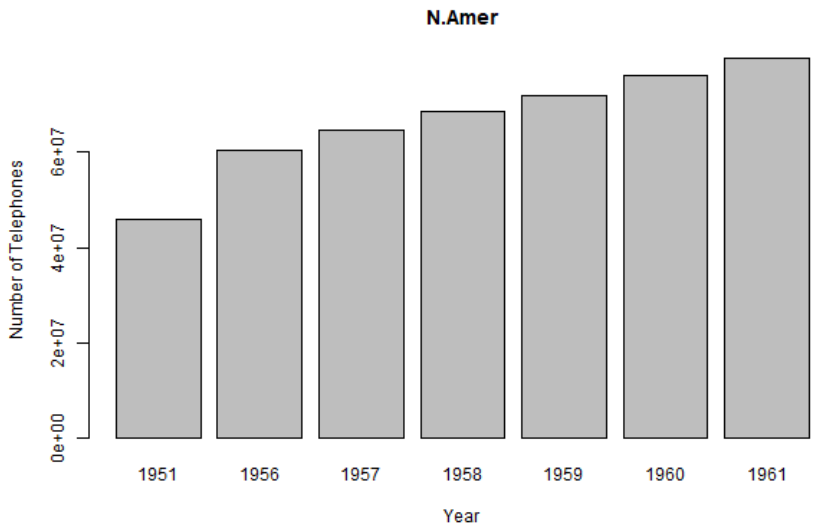
SCREENSHOTS

Telephones by region

Region:

N.Amer

- N.Amer
- Europe
- Asia
- S.Amer
- Oceania
- Africa
- Mid.Amer



Telephones by region

Region:

Asia

- N.Amer
- Europe
- Asia
- S.Amer
- Oceania
- Africa
- Mid.Amer