Let R Shiny do the storytelling job for you and add fantastic interactive interfaces for your R analysis.

Why should you care about learning `shiny`? Follow me in this not so improbable scenario and you'll see why.

Let's say you have an R function `my_hist` that reads in a data set `x` and takes a parameter `bins` to return a histogram.

```
#' Function to perform my awesome analysis
#' Returns a plot of the analyzed data
#' @param x data frame containing the data to analyze
#' @param bins integer parameter indicating the number of bins for the
histogram. Default value  is 30.
#' @importFrom graphics hist
my_hist <- function(x, bins = 30){
  # draw the histogram with the specified number of bins
  hist(
    x, breaks = bins,
    main = "Histogram",
    col = "darkgray", border = "white"
  )
}
```

If you wish your colleague John to look at the results of your analysis, you should provide a document with your plot, and the references to the data and the parameters used. Now let's assume he wants to see the changes in the results using `20 bins` instead of `30`. John would have to reach out to you, you would run the analysis again, send him the new results and repeat this in a loop until John is happy with the results / gets an understanding of the data from a business perspective. Hopefully at this point you both still know which results corresponds to which data and set of parameters, otherwise this is bound to become a mess.

Would it not be much easier if John could just take your code and run all his scenarios on his own? Yes! However, he does not know R, doesn't have it installed or doesn't have your same set up… all potential sources of errors, misalignment and chaos.

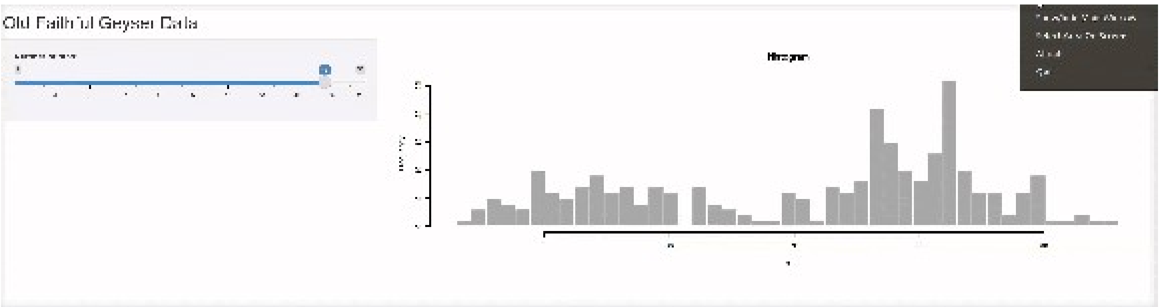
With R `shiny` you can easily solve this problem and provide an interactive user interface to your function.

```
#' Shiny App User Interface
#' @import shiny
ui <- function(){
  fluidPage(
    # Application title
    titlePanel("Histogram Old Faithful Data Set"),
    # Layout with a sidebar and a main panel
    sidebarLayout(
      # Panel with parameters controls
      sidebarPanel(
        sliderInput(
          inputId =  "bins", label =  "Number of bins:",
          min = 1, max = 50, value = 30
        )
      ),
      # Panel showing the results
      mainPanel(
        plotOutput(outputId = "my_plot")
      )
    )
  )
}

#' Shiny App server logic
#' @param id,input,output,session Internal parameters for {shiny}.
#' @import shiny
server <- function(input, output, session) {
  x    <- datasets::faithful[, "waiting"]
  # Reactive parameter for the bins
  bins <- reactive(seq(min(x()), max(x()), length.out = input$bins +
1))

  # Construct reactive plot
  output$my_plot <- renderPlot({
    my_hist(x(), bins())
  })
}

shinyApp(ui,server)
```



With few lines of code you can build a dynamic web application John can easily interact with. All in R and without having to become a web developer!

This is a minimal example of what you can do with `shiny`. You can easily go from a quick prototype for internal use, to a more complex and professional application that can be used in a productive environment. With a few lines of code you can, for example, build downloadable reports showing the results of your analysis and all the parameters needed for full reproducibility; you can add information and documentation for the user directly in the interface; you can also extend the application with additional plots and features, or you can reuse the same modular analysis in a different context. In a few words, the possibilities that R `shiny` opens up are only limited by the data scientist imagination.

If you do not yet know how to build a `shiny` app, **have a look at Mirai’s upcoming workshop “Build your first Shiny App” and learn with us how to develop a `shiny` app from scratch**. It is the first of a series of workshops focusing on `shiny`. Check [our deals]](/services/workshops/ws-set-offers/) if you are interested to enhance your skills going from the basics all the way to advanced topics such as making the UI more professional and user friendly, or making an app ready for production.

It will take place online on March 3rd, from 2 to 5 pm CET - save the date!