

*Shiny*WYSIWYG: a *Shiny* What You See Is What You Get editor

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Keywords: R, WYSIWYG, GUI

Abstract For any computer application, having a graphical user interface (GUI) potentially increases its usability and scope. In the case of the R language, one of the most used alternatives is the *Shiny* [1] library. *Shiny* is an R package that facilitates the creation of interactive web applications directly from R. However, using *Shiny* requires a certain level of knowledge of R programming. Looking at CRAN's Task Views, it is easy to note that the R community brings together a variety of specialists in various fields such as biologists, agronomists, economists, among others. It is therefore crucial that R development tools maximize the level of programmatic simplicity to ease the start of the learning ramp. In order to further facilitate the process of developing a user-friendly GUI, and tackling this learning gap, here we present the *ShinyWYSIWYG* application.

ShinyWYSIWYG is a visual editor that allows the user, using the *drag and drop* technique, inserting the various fields that *Shiny* provides as input and output, by selecting the desired size and position for each field. Once the user interface is generated, *ShinyWYSIWYG* also eases the development of the server logic. For each event that the user wishes to generate, the input field that triggers the action must be specified, the code to be executed, the input variables that it will use, and if desired, which is the output field where the results will be rendered. *ShinyWYSIWYG* also allows using global variables and adding code that must be executed before running the server (application's global code).

Once the GUI design is complete, *ShinyWYSIWYG* provides the complete R code that generates it. Then the user should only have to copy and paste the code and run its Shiny application. *ShinyWYSIWYG* also allows loading previously saved projects.

ShinyWYSIWYG is entirely developed in R using the *Shiny*, *ggplot2*, and *shinyjs* libraries. It works independently of R and *Shiny* versions. It is freely available at github.com/jcrodriguez1989/shinyWYSIWYG, where is also an example to recreate, by *ShinyWYSIWYG*, the *Shiny* "01_hello" application.

References

1. Winston Chang, Joe Cheng, JJ Allaire, Yihui Xie and Jonathan McPherson (2017). shiny: Web Application Framework for R. R package version 1.0.5.