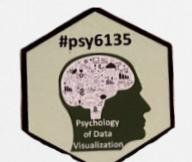


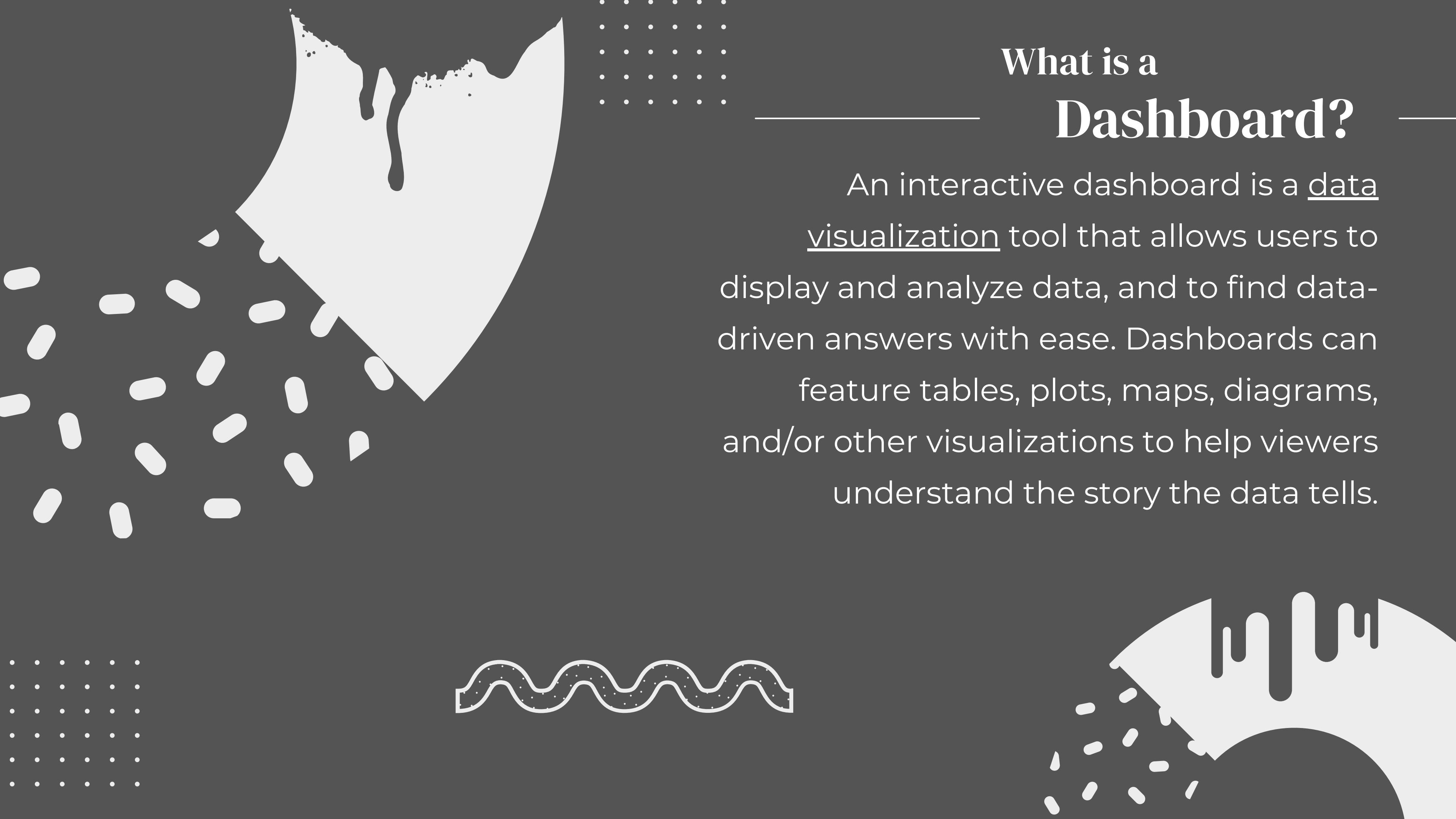
Flexdashboard: Let the Data Story Tell Itself

Udi Alter

Class presentation

April 5th, 2022





What is a Dashboard?

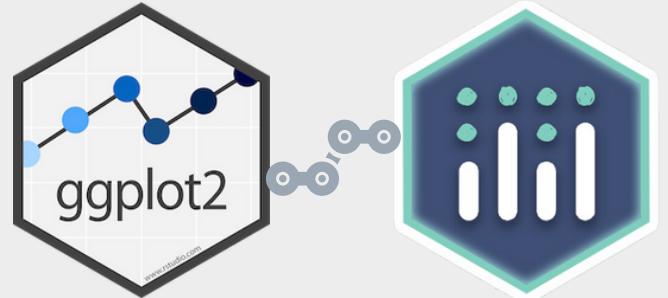
An interactive dashboard is a data visualization tool that allows users to display and analyze data, and to find data-driven answers with ease. Dashboards can feature tables, plots, maps, diagrams, and/or other visualizations to help viewers understand the story the data tells.



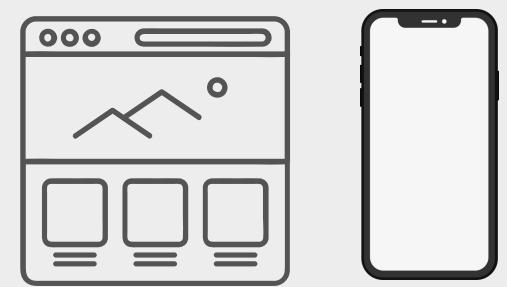
What is flexdashboard?



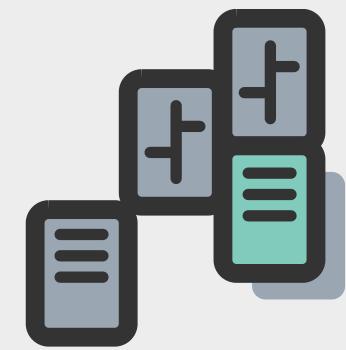
{flexdashboard} is an R package. With flexdashboard, it is quick and easy to create interactive (but, also static) data visualization dashboards using R Markdown. Here are some of its iconic features:



Insert tabular data,
ggplots, and plotly
objects



Design layouts for
both browser and
mobile devices



Create a Storyboard for
presenting sequences
of visualizations and
related commentary

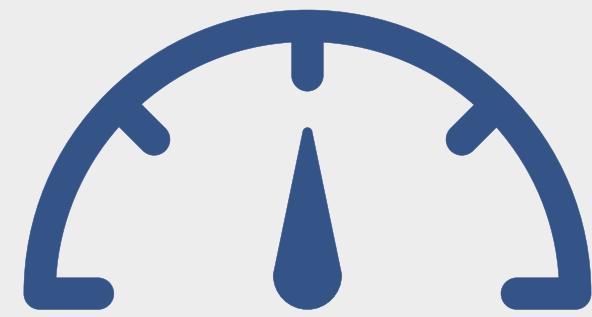


Incorporate Shiny to
drive visualizations
dynamically





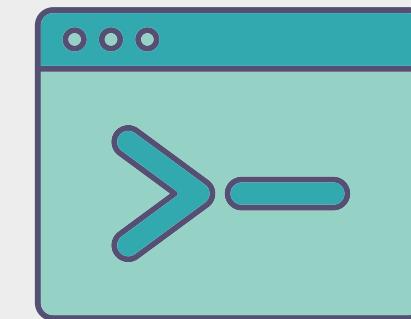
Other flexdashboard features



Insert gauges,
value boxes, and
htmlwidgets



Options to share
dashboard on social
media



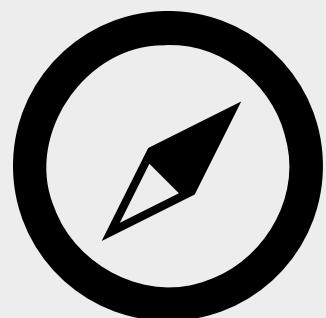
Immediate and
accessible source
code display



— What Can flexdashboards Do for You —

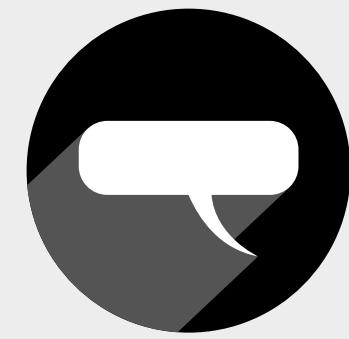


Here are some advantages and potential applications of dashboards:



Data exploration

- a useful tool to answer questions about your data where programming skills are not required



Data presentation/story telling

- highlight information to best tell your data's story and results

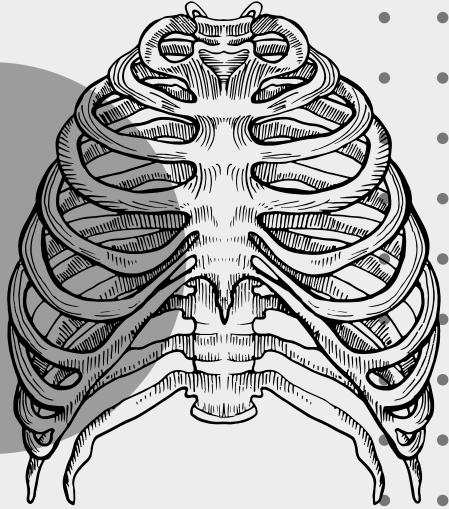


The next generation of academic/research posters and abstracts

- communicate scientific findings and serve as a teaching/learning tool



flexdashboard Anatomy



YAML matter

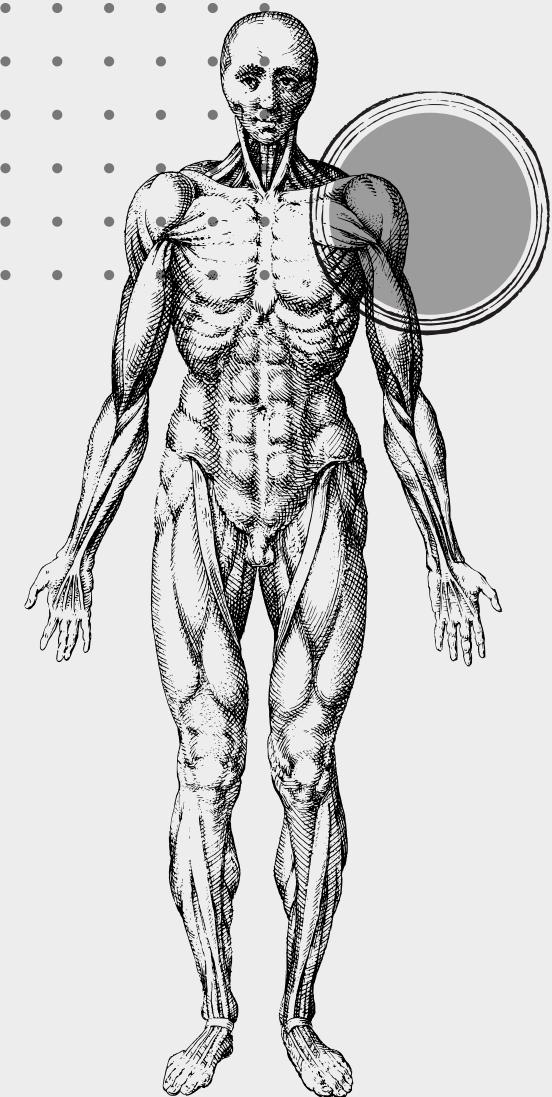
Yet Another Markup Language. The top piece of code specifying different document configurations (e.g., title, author, output type, theme, etc).

Navigation bar

Nav bar includes the title, author name, pages, and buttons directing to source code, social media, and other links.

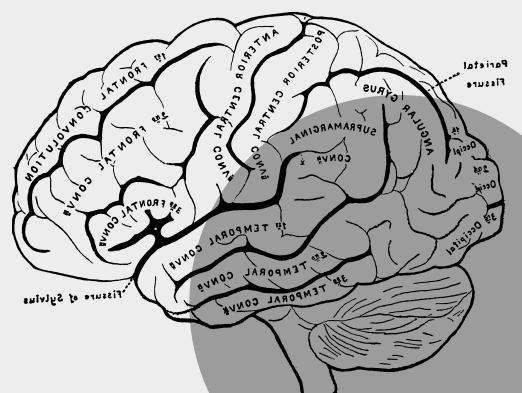
Layout

Layout includes the type of chart orientations. The most common ones are rows or columns. But, there are many options such as: scroll, fill, tabs, sidebars, and combinations of two or more.



YAML matter

```
1 ---  
2 title: "Equivalence Testing for Multiple Regression"  
3 author: "Alter & Counsell (2021)"  
4 output:  
5   flexdashboard::flex_dashboard:  
6     theme: flatly  
7     vertical_layout: fill  
8     social: menu  
9     source_code: embed  
10    navbar:  
11      - { icon: "fa-newspaper", href: "https://psyarxiv.com/ugc9e/", align: right }  
12 ---
```

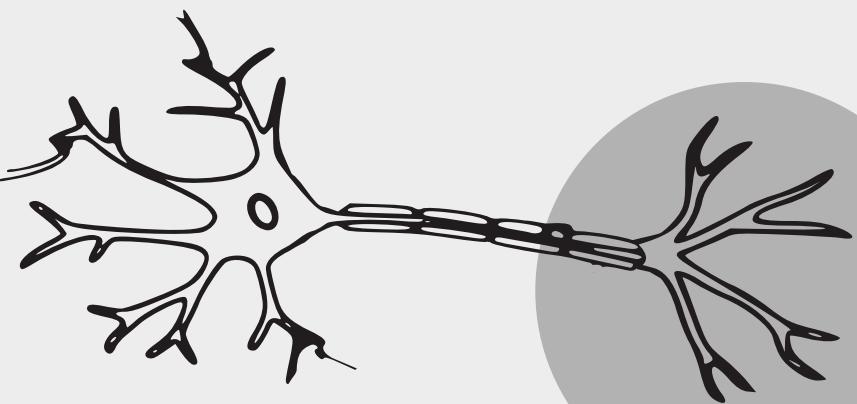


Navigation Bar

Equivalence Testing for Multiple Regression Alter & Counsell (2021)

 Paper Highlights  Contact the Authors  References    Source Code

Nav bar is easily customizable. For example, you can change the font, size, colour, theme, pages, buttons, links, icons, favicons, etc.



Layout



Source Code

```
1 ---  
2 title: "Row Orientation"  
3 output:  
4   flexdashboard::flex_dashboard:  
5     orientation: rows  
6 ---  
7 Row  
8 ---  
9  
10  
11 ### Chart 1  
12  
13 ``{r}  
14  
15 Row  
16 ---  
17  
18  
19 ### Chart 2  
20  
21 ``{r}  
22  
23  
24 ### Chart 3  
25  
26 ``{r}  
27  
28
```

COLUMN

orientation



Rendered Doc

Chart 1

Chart 2

Chart 3

Source Code

```
1 ---  
2 title: "Column Orientation"  
3 output: flexdashboard::flex_dashboard  
4 ---  
5 Column  
6 ---  
7  
8 ### Chart 1  
9  
10 ``{r}  
11  
12 Column  
13 ---  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26
```

Rendered Doc

Chart 1

Chart 2

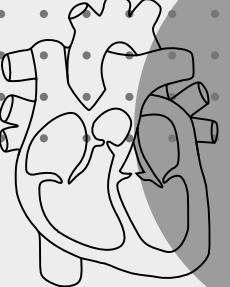
Chart 3

ROW

orientation



• • •
• • •
• • •
• • •
• • •
• • •



Onion- Structured Syntax



Page 1

=====
Row/Column

Chart 1

Text example: Hello world!

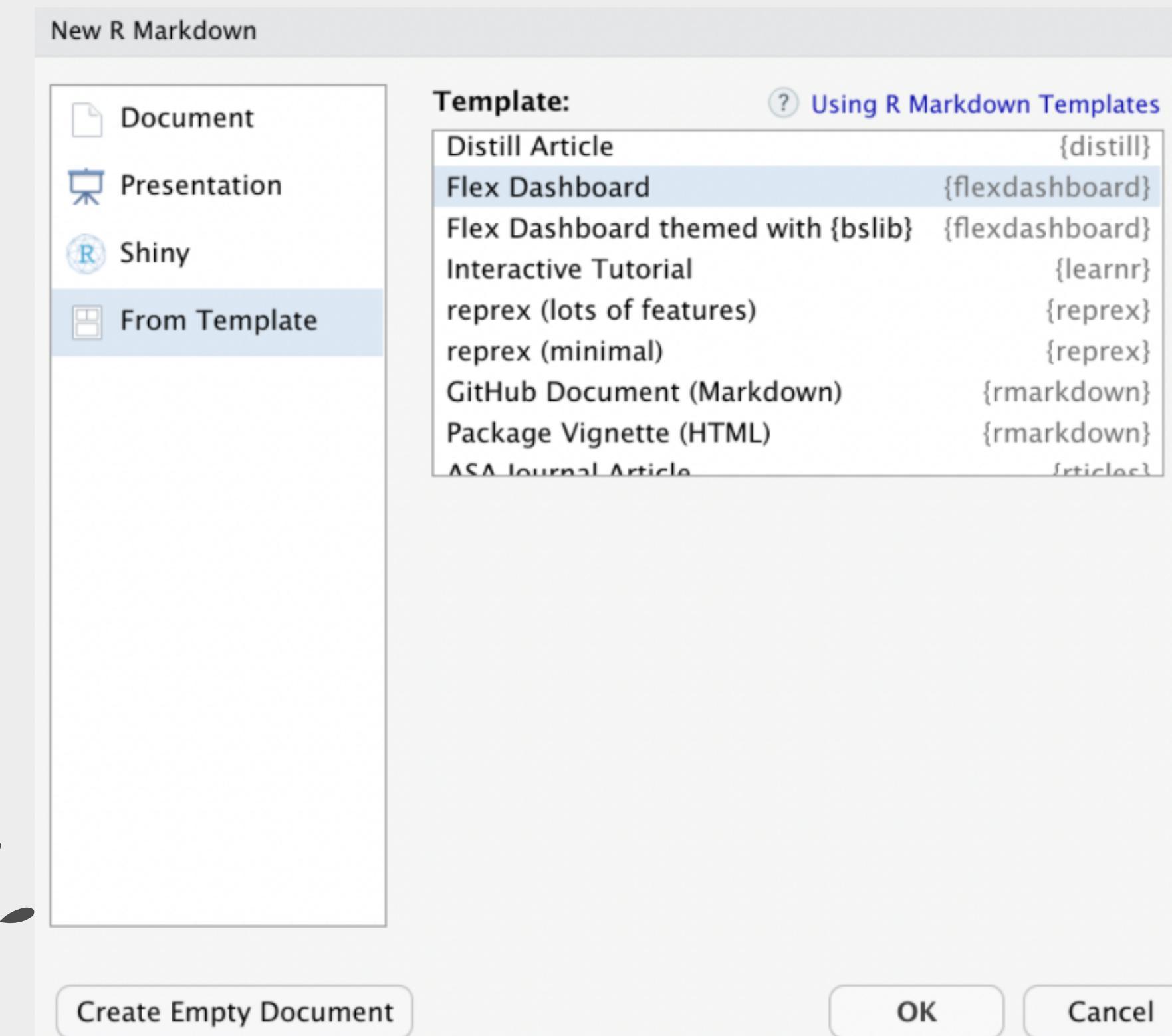
```
```{r chunk name}  
inside chunk: r operation e.g., data manipulation,
generating plots etc.
```
```

Installation & Initialization

#' # Installation

```
1 install.packages("flexdashboard")
2 install.packages("plotly")
```

#' # Initialization



Helpful Resources



[Font Awesome Icons](#)



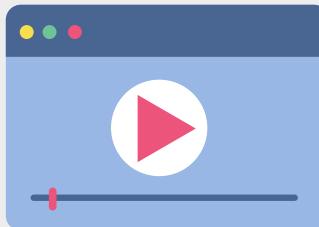
[flexdashboard website](#)

Example

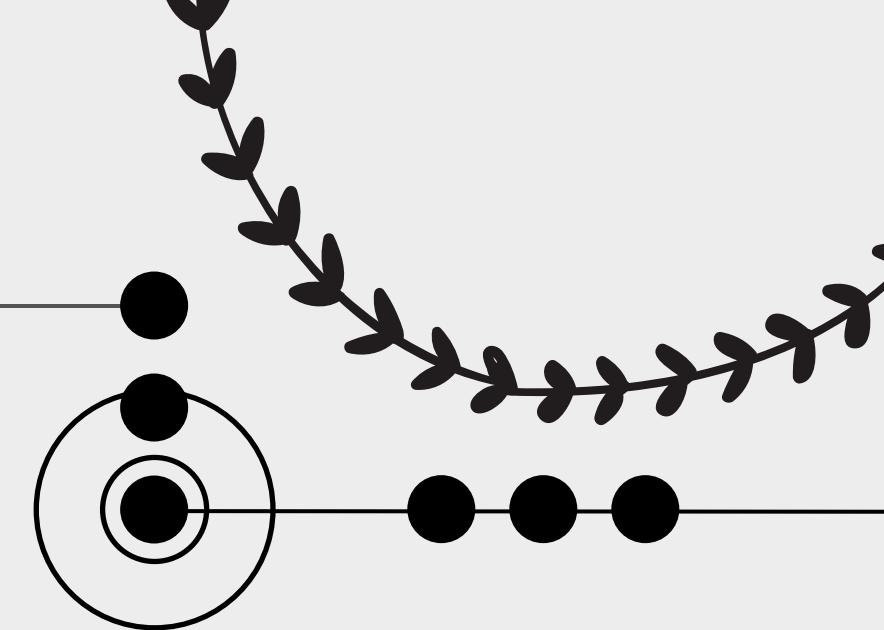
[Good examples](#)



[User manual](#)



[flexdashboard tutorial](#)



— Thank You! —



Source code available at:

<https://github.com/udialter/welcome2flexdashboard>