Getting started with surveydown

Meet your instructor!

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- 2016-2018 Postdoc at Institute for Sustainable Energy, Boston University
- 2016 PhD in Engineering & Public Policy at Carnegie Mellon University
- 2015 MS in Engineering & Public Policy at Carnegie Mellon University
- 2010 BS in Engineering Science & Mechanics at Virginia Tech
- Website: www.jhelvy.com

Meet the dev team!

John Paul Helveston

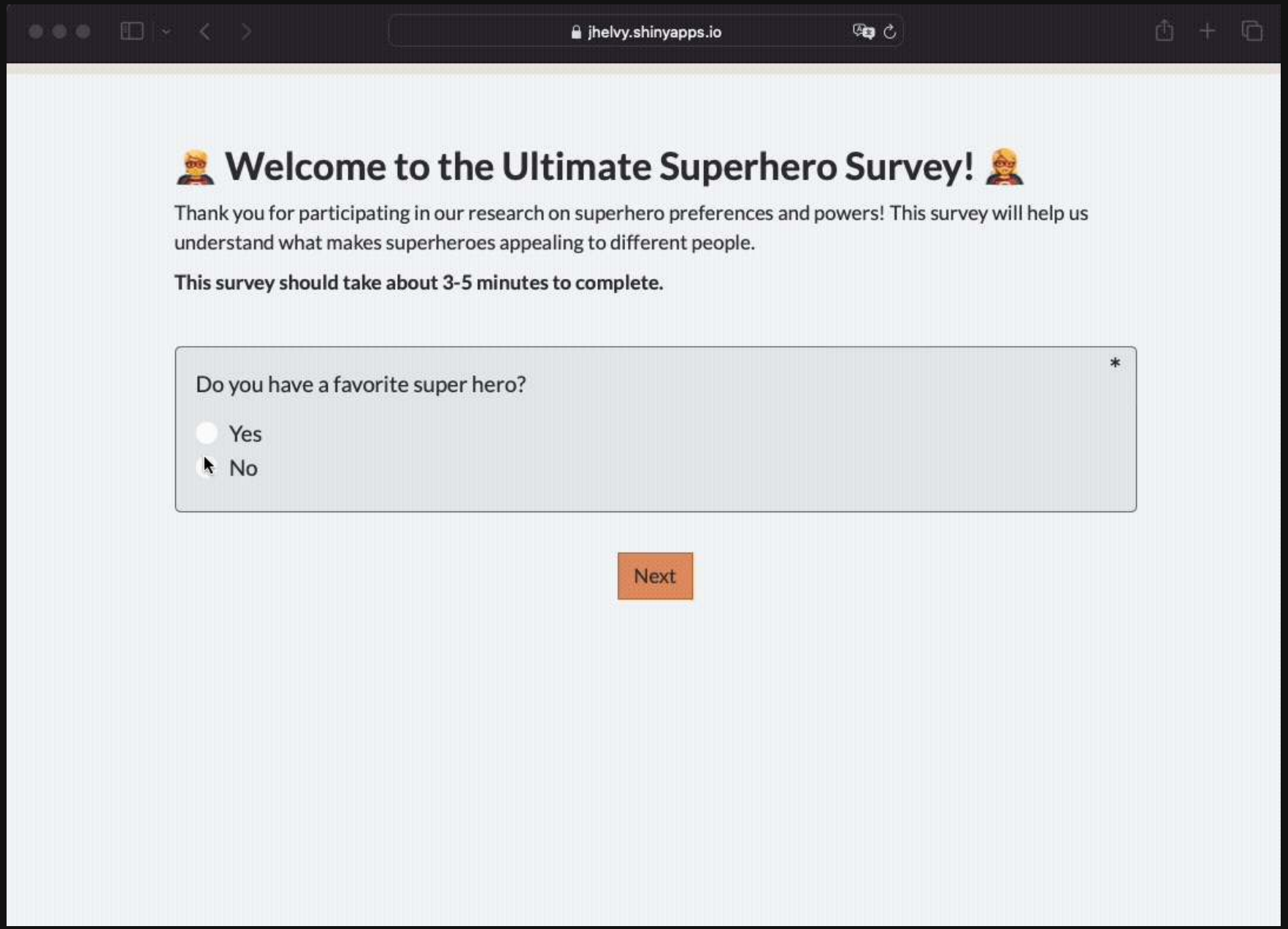
Pingfan Hu

Bogdan Bunea

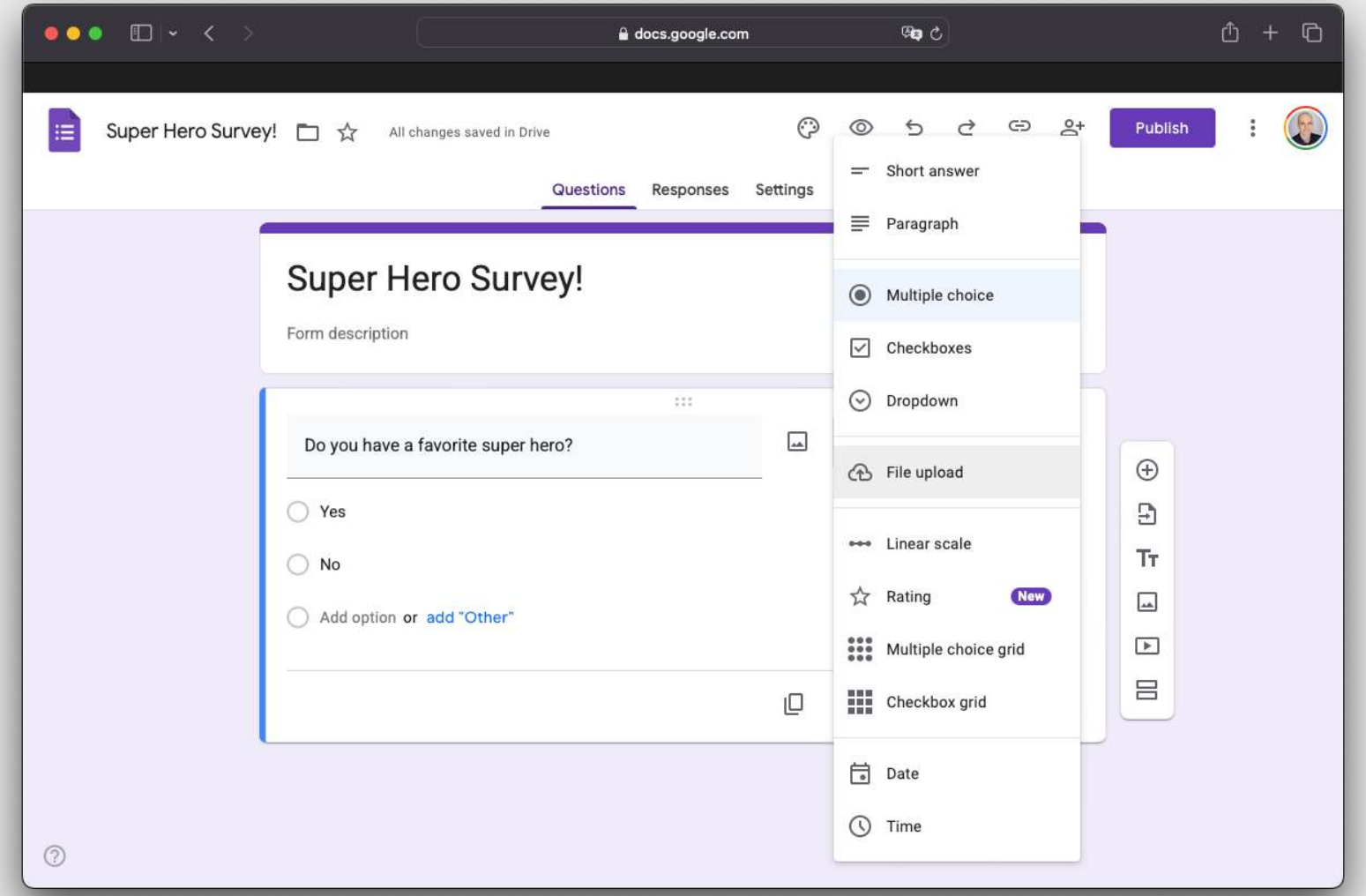
Before we start...

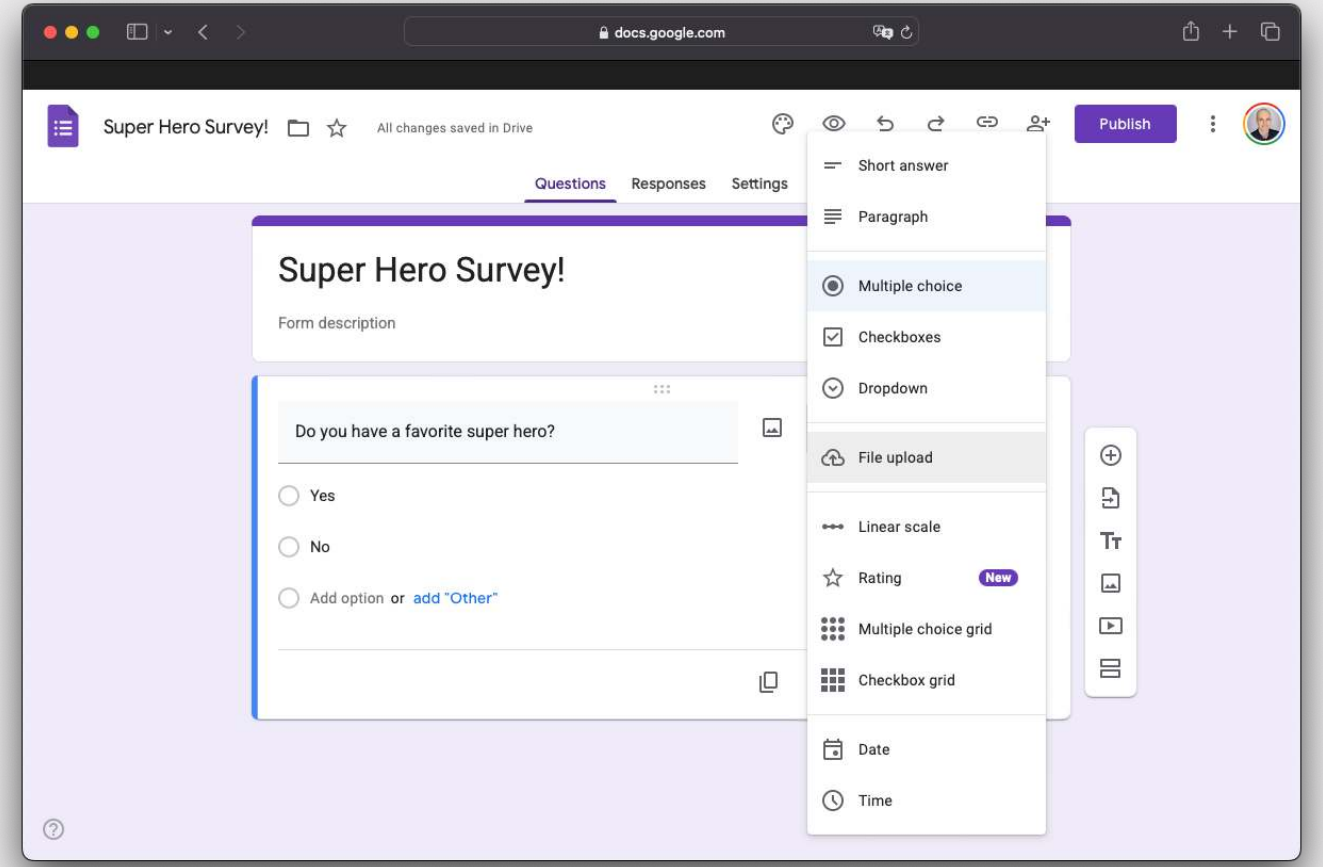
1. Be sure to install everything
2. Download the examples

Getting started with surveydown


jhelvy.shinyapps.io
🦸 Welcome to the Ultimate Superhero Survey! 🦸
Thank you for participating in our research on superhero preferences and powers! This survey will help us understand what makes superheroes appealing to different people.
This survey should take about 3-5 minutes to complete.
Do you have a favorite super hero? *
Yes
No
Next

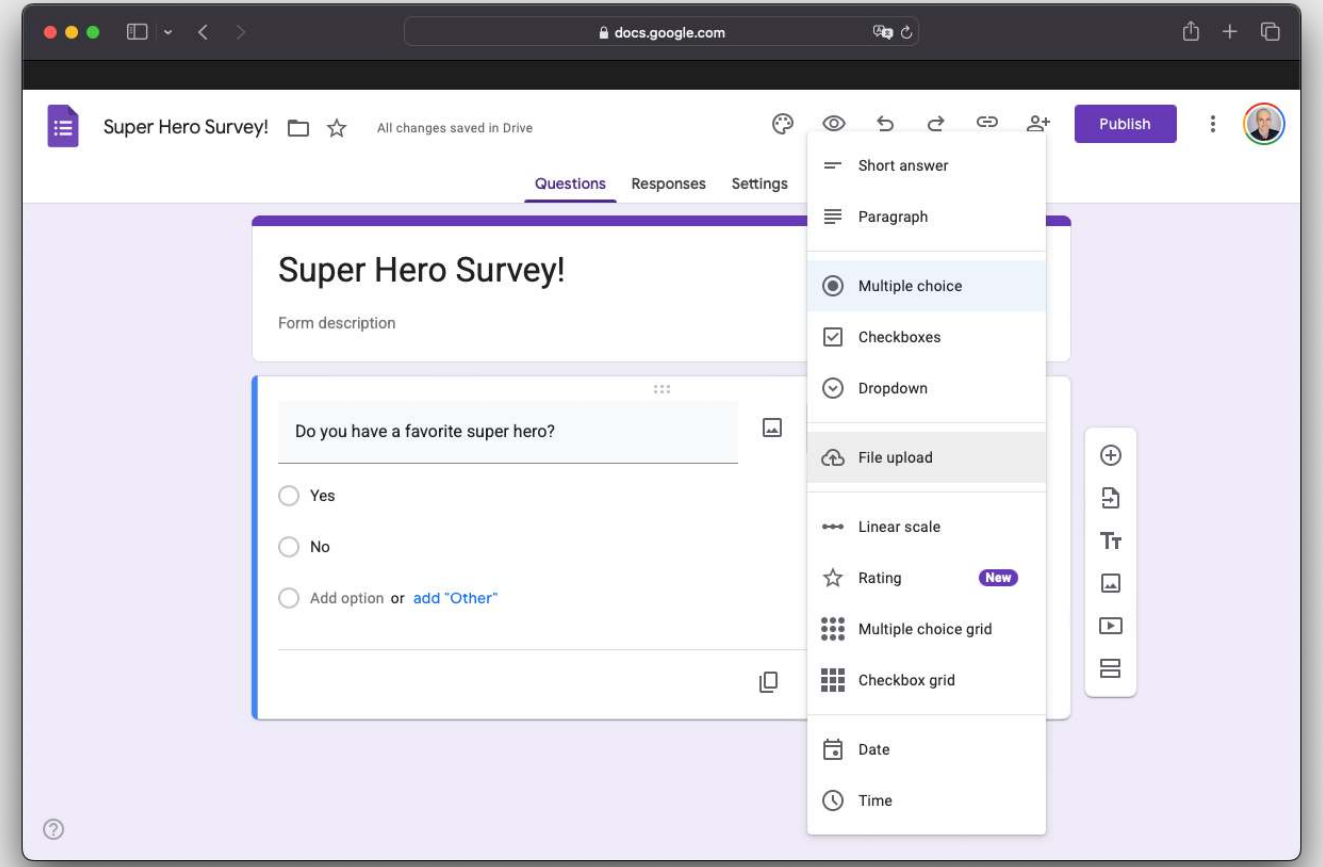
WYSIWYG Interface





Limitations

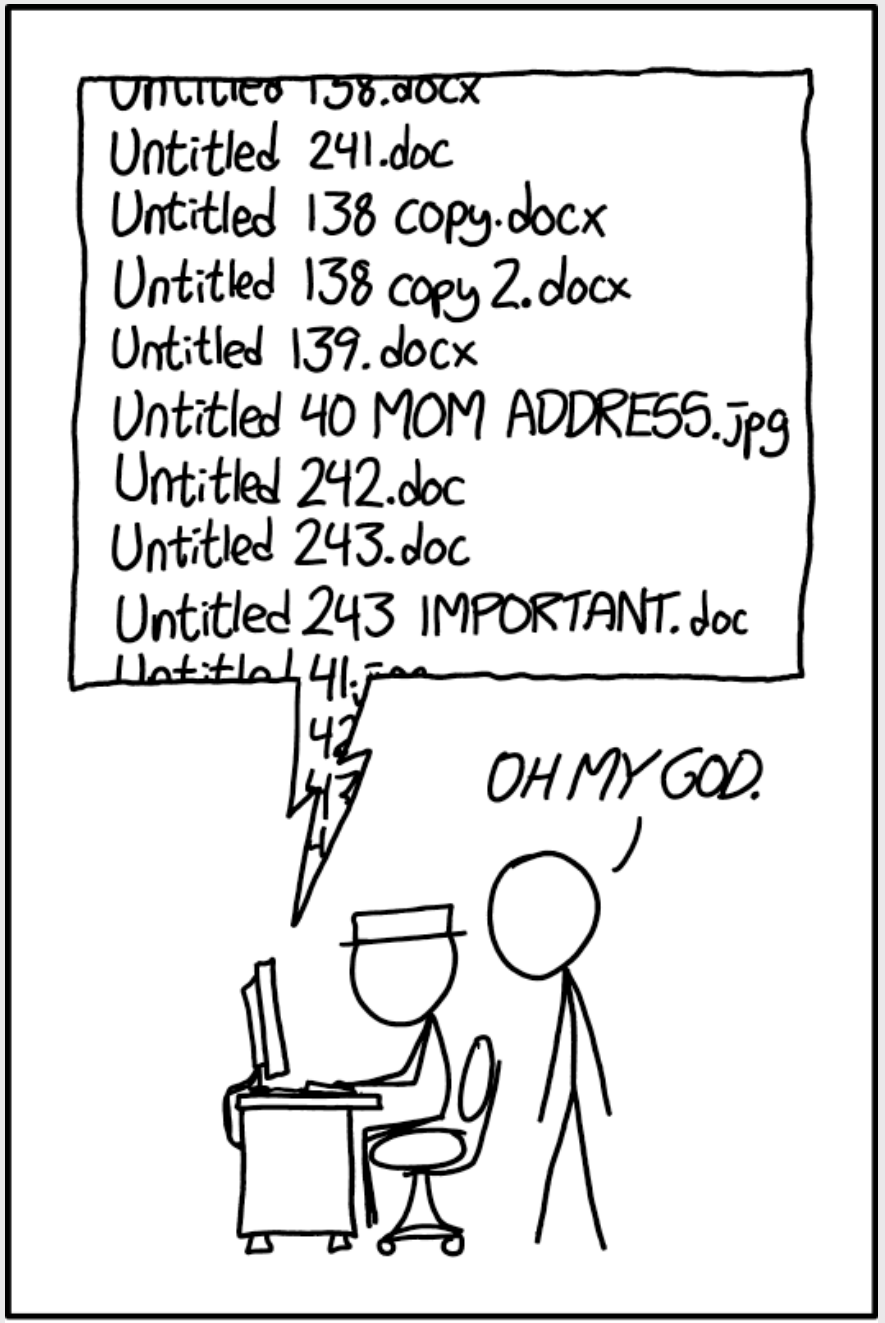
❌ Reproducibility

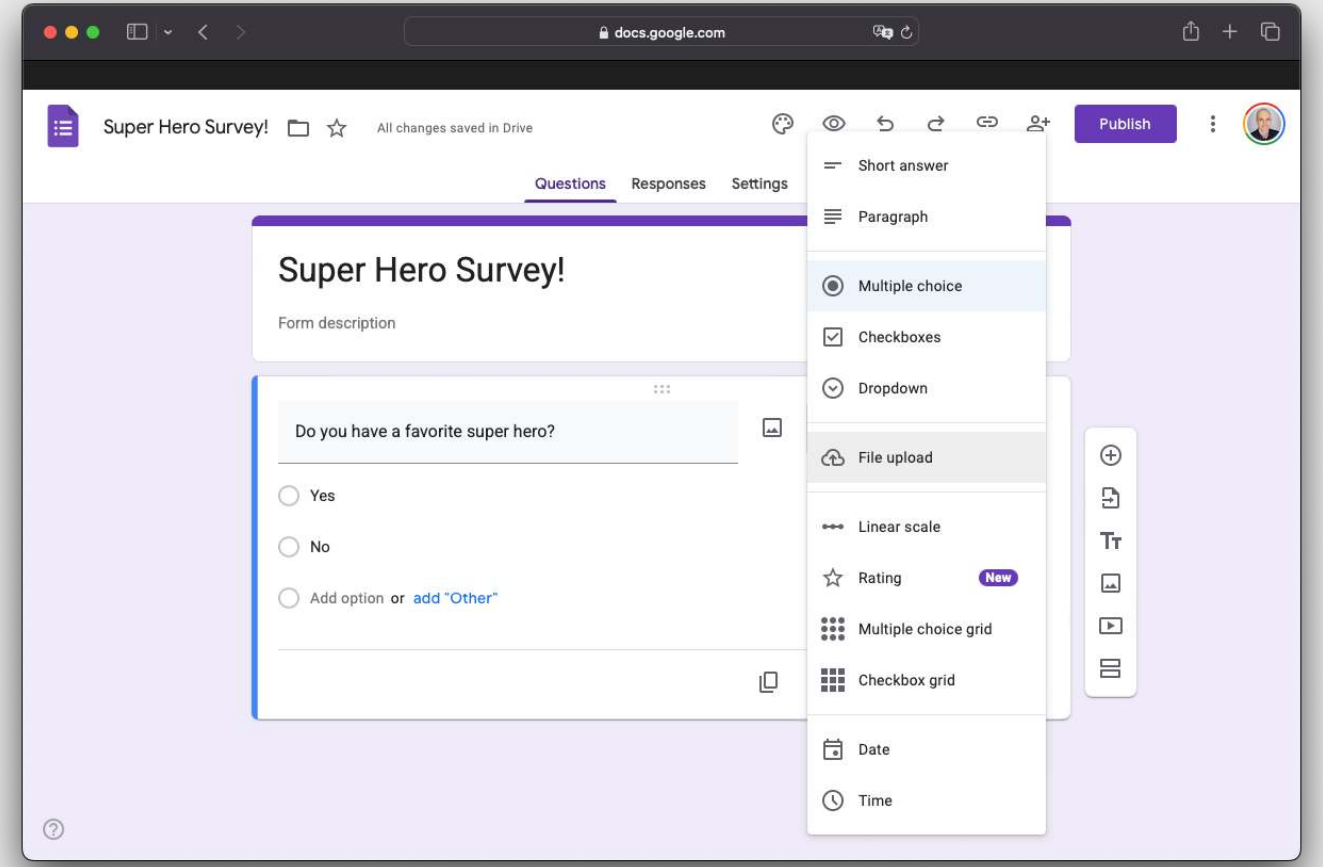


Limitations

❌ Reproducibility

❌ Version control


Untitled 241.doc
Untitled 138 copy.docx
Untitled 138 copy 2.docx
Untitled 139.docx
Untitled 40 MOM ADDRESS.jpg
Untitled 242.doc
Untitled 243.doc
Untitled 243 IMPORTANT.doc
OH MY GOD.

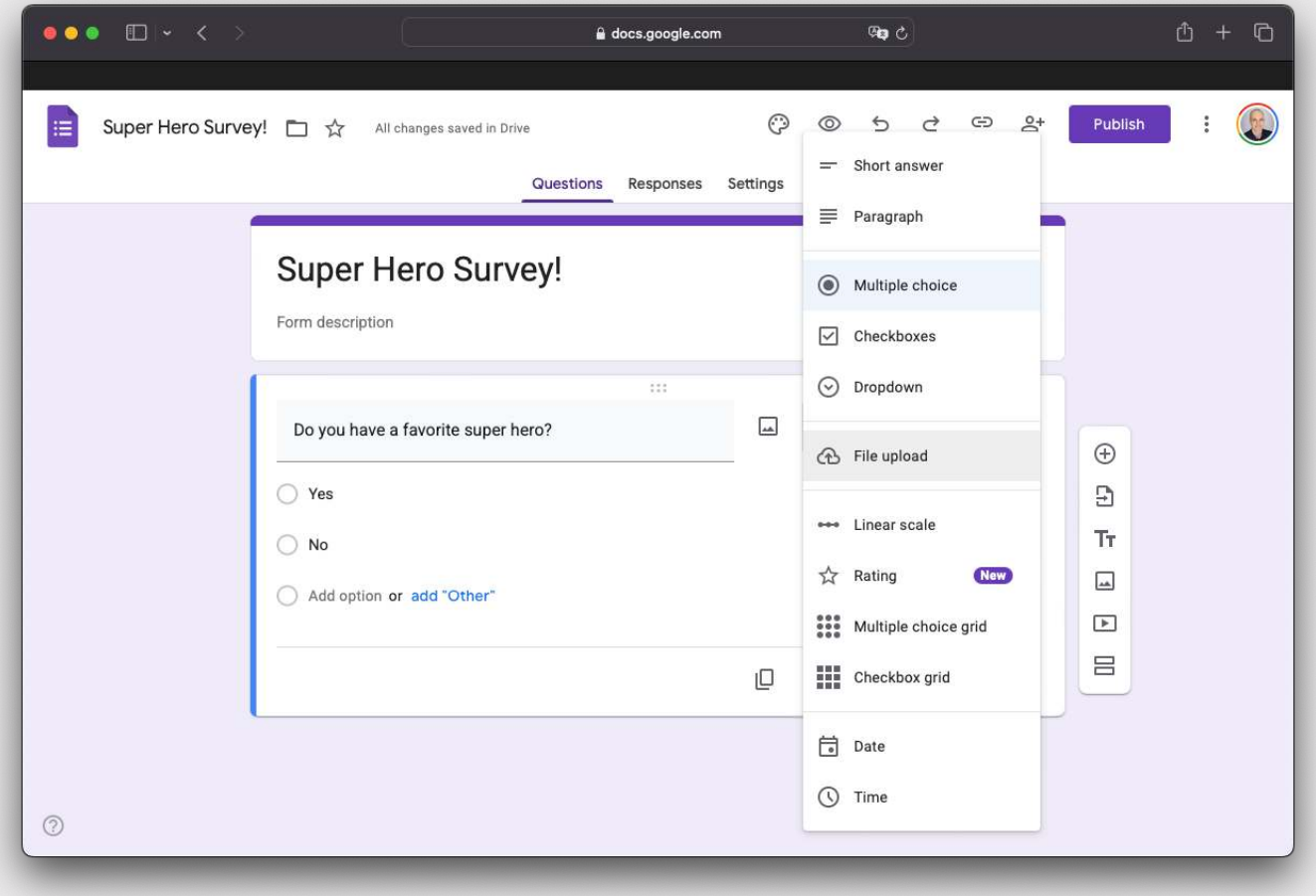


Limitations

❌ Reproducibility

Version control

❌ Limited features



Limitations

❌ Reproducibility

Version control

Limited features

❌ Open source

Why not make surveys from code?

Why not make surveys from code?

~~Limitations~~

Features

✅ Reproducibility

Version control

Lots of features

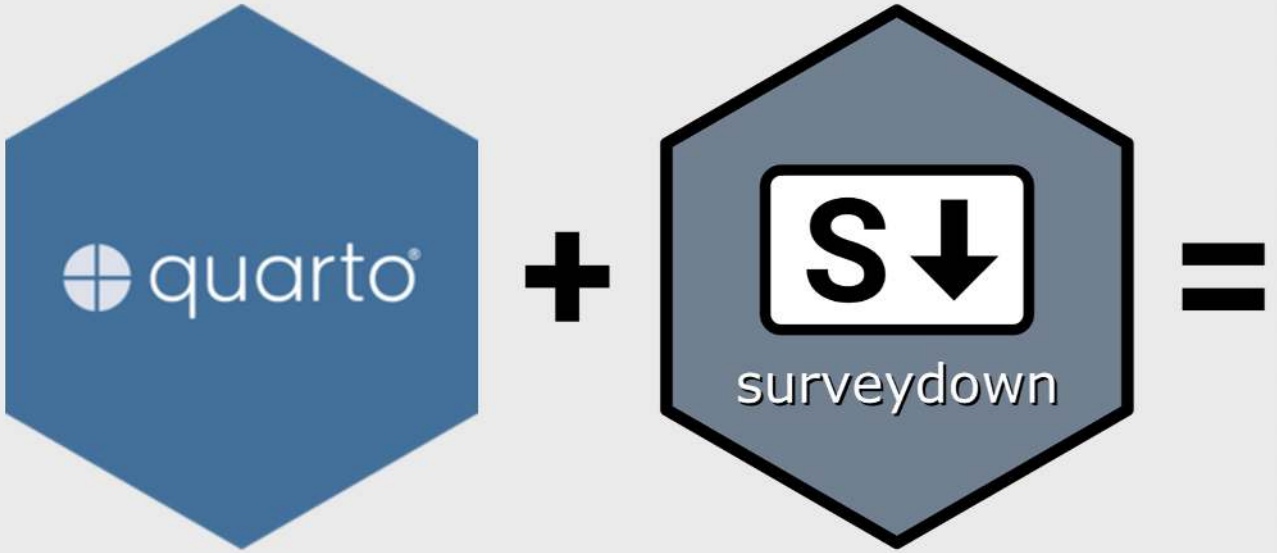
✅ Open source

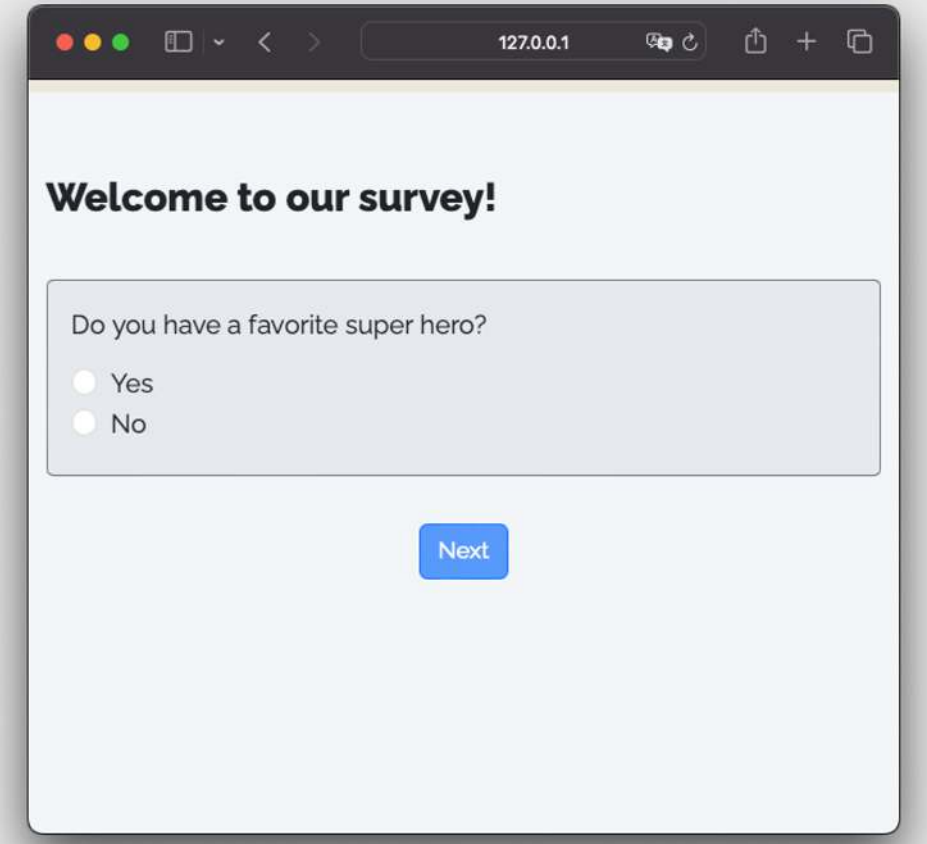
Introducing surveydown!

Getting started with surveydown

1. What is surveydown?
2. Adding survey content

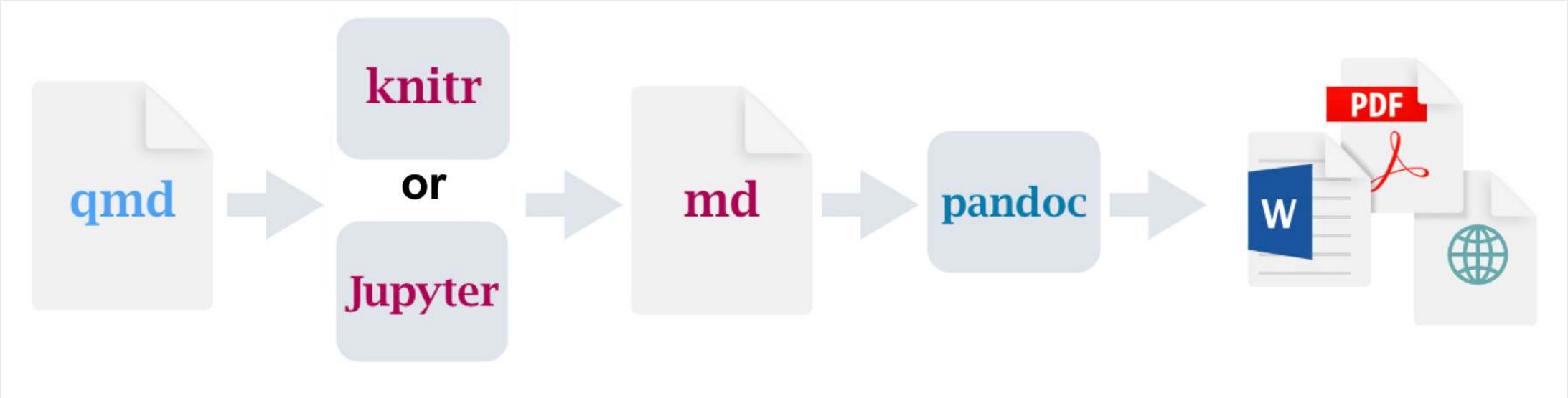
R package that renders Quarto files into surveys





What is Quarto?

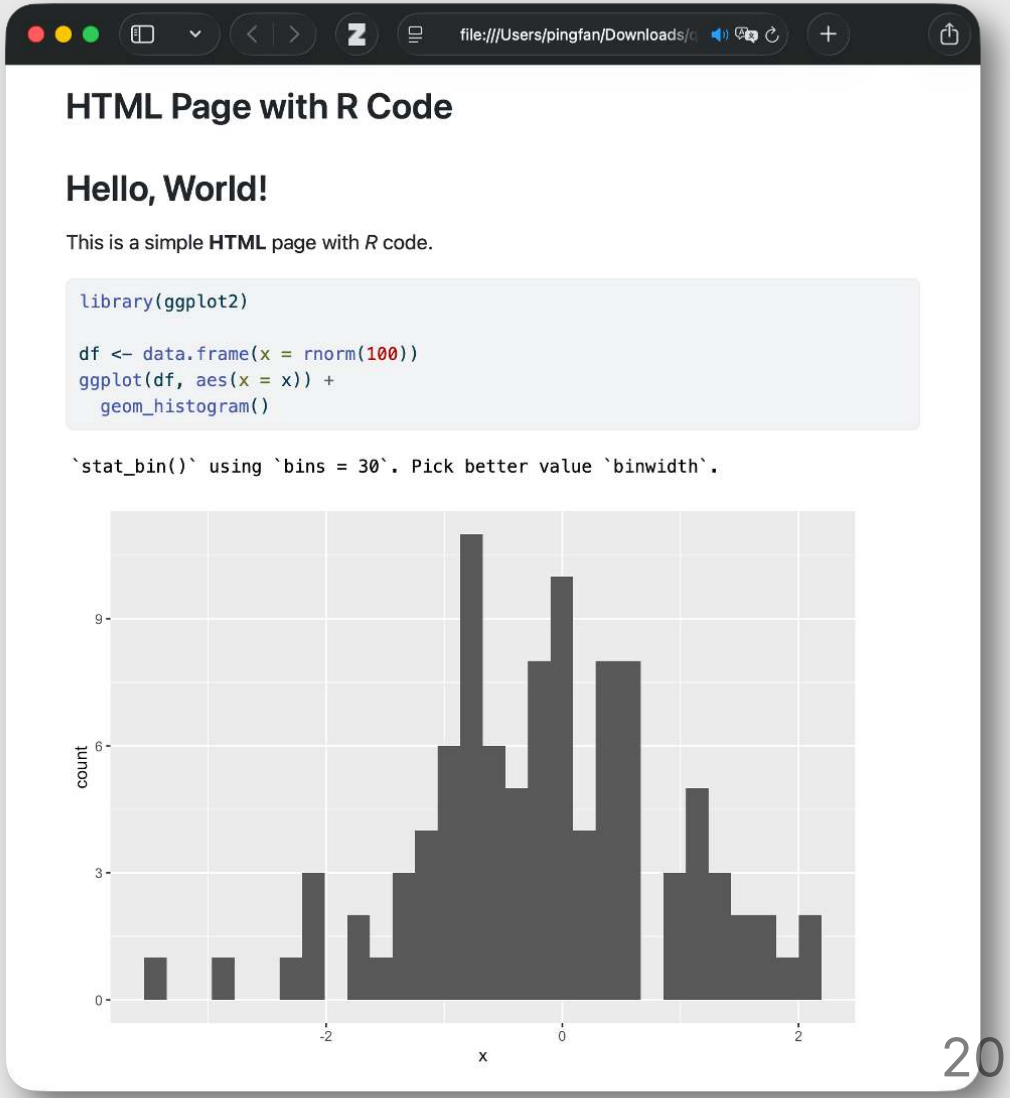
Quarto is a publishing system that blends **markdown-formatted text** & **code**



example.qmd

````
---
format: html
title: "HTML Page with R Code"
---

# Hello, World!

This is a simple **HTML** page with *R* code.

```{r}
library(ggplot2)

df <- data.frame(x = rnorm(100))
ggplot(df, aes(x = x)) +
  geom_histogram()
```
````

Rendered output



survey.qmd

````
---
format: html
echo: false
warning: false
---

```{r}
library(surveydown)
```

--- welcome

# Welcome to our survey!

```{r}
sd_question(
  type  = "mc",
  id    = "penguins",
  label = "What's your favorite penguin?",
  option = c(
    "Adélie"    = "adelie",
    "Chinstrap" = "chinstrap",
    "Gentoo"    = "gentoo"
  )
)

sd_next()
```

--- end

This is the last page of the survey.

```{r}
sd_close()
````
````

````
---
format: html
echo: false
warning: false
---

```{r}
library(surveydown)
```

--- welcome

# Welcome to our survey!

```{r}
sd_question(
  type  = "mc",
  id    = "penguins",
  label = "What's your favorite penguin?",
  option = c(
    "Adélie"    = "adelie",
    "Chinstrap" = "chinstrap",
    "Gentoo"    = "gentoo"
  )
)

sd_next()
```

--- end

This is the last page of the survey.

```{r}
sd_close()
````

YAML Header

Load `surveydown` package
````

````
---
format: html
echo: false
warning: false
---

```{r}
library(surveydown)
```

--- welcome

# Welcome to our survey!

```{r}
sd_question(
  type  = "mc",
  id    = "penguins",
  label = "What's your favorite penguin?",
  option = c(
    "Adélie"    = "adelie",
    "Chinstrap" = "chinstrap",
    "Gentoo"    = "gentoo"
  )
)

sd_next()
```

--- end

This is the last page of the survey.

```{r}
sd_close()
````

Define page breaks like this:

```
--- page_id

Page content
```
```

````
---
format: html
echo: false
warning: false
---

```{r}
library(surveydown)
```

--- welcome

# Welcome to our survey!

```{r}
sd_question(
  type  = "mc",
  id    = "penguins",
  label = "What's your favorite penguin?",
  option = c(
    "Adélie"    = "adelie",
    "Chinstrap" = "chinstrap",
    "Gentoo"    = "gentoo"
  )
)

sd_next()
```

--- end

This is the last page of the survey.

```{r}
sd_close()
````

Use markdown for page content

Use `sd_question()` in code chunk for survey questions

Use `sd_next()` for next button
````

````
---
format: html
echo: false
warning: false
---

```{r}
library(surveydown)
```

--- welcome

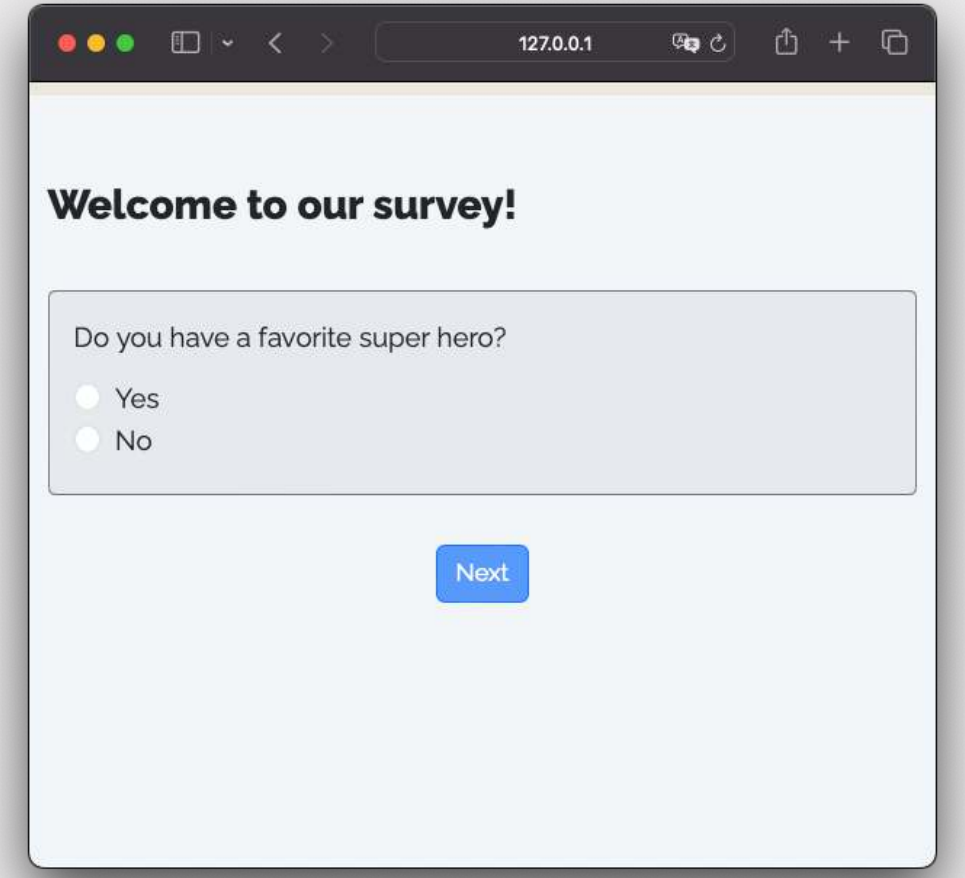
# Welcome to our survey!

```{r}
sd_question(
  type  = "mc",
  id    = "penguins",
  label = "What's your favorite penguin?",
  option = c(
    "Adélie"    = "adelie",
    "Chinstrap" = "chinstrap",
    "Gentoo"    = "gentoo"
  )
)

sd_next()
```

--- end

This is the last page of the survey.

```{r}
sd_close()
````


````

Use Shiny to drive the web app

Survey Components

`survey.qmd`

A **Quarto doc** defining the main survey content (pages, text, images, questions, etc).

`app.R`

An **R script** defining the survey Shiny app. It sets up the database and server, and launches the survey.

```r
library(surveydown)

# Connects to database
db <- sd_db_connect()

# Main UI
ui <- sd_ui()

server <- function(input, output, session) {

  # Main server
  sd_server(db)

}

shiny::shinyApp(
  ui = ui,
  server = server
)
```

app.R

```r
library(surveydown)

# Connects to database
db <- sd_db_connect()

# Main UI
ui <- sd_ui()

server <- function(input, output, session) {

  # Main server
  sd_server(db)

}

shiny::shinyApp(
  ui = ui,
  server = server
)
```

Load package

Connect to database

Make standard UI

Run surveydown server

Your turn - start with a template

05:00

Step 1: In R console, run:

```
surveydown::sd_create_survey()
```

Optional: Specify a `path` and / or a `template`:

```
surveydown::sd_create_survey(
  template = "question_types",
  path     = "path/to/folder"
)
```

Step 2: In your IDE, open the `app.R` file, click "Run App", or in R console run:

```
shiny::runApp('app.R')
```

Getting started with surveydown

1. What is surveydown?
2. Adding survey content

YAML Header

The YAML header is at the top of the `.qmd` file:

```
---
format: html
echo: false
warning: false
---
```

Change the survey theme

Pick a different bootswatch theme with the `theme` key:

```
---
format: html
echo: false
warning: false
theme: united
---
```

Make a custom theme with a `custom.scss` file

```
---
format: html
echo: false
warning: false
theme: [united, custom.scss]
---
```

Progress bar

You can modify the survey progress bar with the `barcolor` and `barposition` keys:

Change to any color with `barcolor`:

```
---
format: html
echo: false
warning: false
barcolor: #768692
---
```

Change position: `top`, `bottom`, or `none`

```
---
format: html
echo: false
warning: false
barposition: bottom
---
```

Inserting pages

Insert new pages with the shorthand syntax using three dashes `---` followed by the page ID:

```
--- page1

Page 1 content here

--- page2

Page 2 content here
```

Inserting next buttons

Insert buttons with the `sd_next()` function to go to the next page:

````
```{r}
sd_next()
```
````

Specify a specific page to go to:

````
```{r}
sd_next('next_page_id')
```
````

Inserting questions

Insert questions using the `sd_question()` function, like this:

Code

```
sd_question(
  type   = 'mc',
  id     = 'fruit',
  label  = "1. Do you like fruit?",
  option = c(
    'Yes!'     = 'yes',
    'Kind of' = 'kind_of',
    'No :('    = 'no'
  )
)
```

Format is `"Label = value"`

Output

1. Do you like fruit?

- ○ Yes!
- ○ Kind of
- ○ No :(

*

Data

`yes`, `kind_of`, or `no`

surveydown supports lots of question types

Some common types you may want to use:

Type	Description
`mc`	Multiple choice question (single choice)
`mc_multiple`	Multiple choice question (multiple choices)
`mc_buttons`	Multiple choice question (large buttons)
`select`	Drop down menu (choose one)
`text`	Open text, single row
`textarea`	Open text, block

Embed images with html

I recommend just writing html code, like this

```
<center>
<img src="https://surveydown.org/images/logo.png" width=250>
</center>
```

Embed images with markdown

```
![](https://surveydown.org/images/logo.png){fig-align="center" width="250"}
```

Try out the surveydown studio app

```
sdstudio::launch()
```

Your turn

10:00

- Open and edit the `survey.qmd` file that you previously made.
- Pick a topic for your survey (a food, an animal, a sports team...whatever).
- Draft a survey about that topic. Include the following:
  - Page 1: A welcome message in large font ("Welcome to a survey about [topic]") and an image about the topic (find an image somewhere).
  - Pages 2 to N: Add different questions about the topic using several different question types.
- Try out different themes to change the look and feel.

OR:

Open and play with the examples:

- `part-1-question-types`
- `part-1-question-yml`