

sdstudio

A Companion Package for Designing
and Managing **surveydown** Surveys

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About Me



- **Pingfan Hu**, PhD Candidate at George Washington University, advised by Dr John Helveston.
- Research field:
 1. Sustainable transportation
 2. Human behavior and decision-making
- Research focuses:
 1. Open-source software development
 2. Data science and choice modeling
- For more information, visit pingfanhu.com

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.

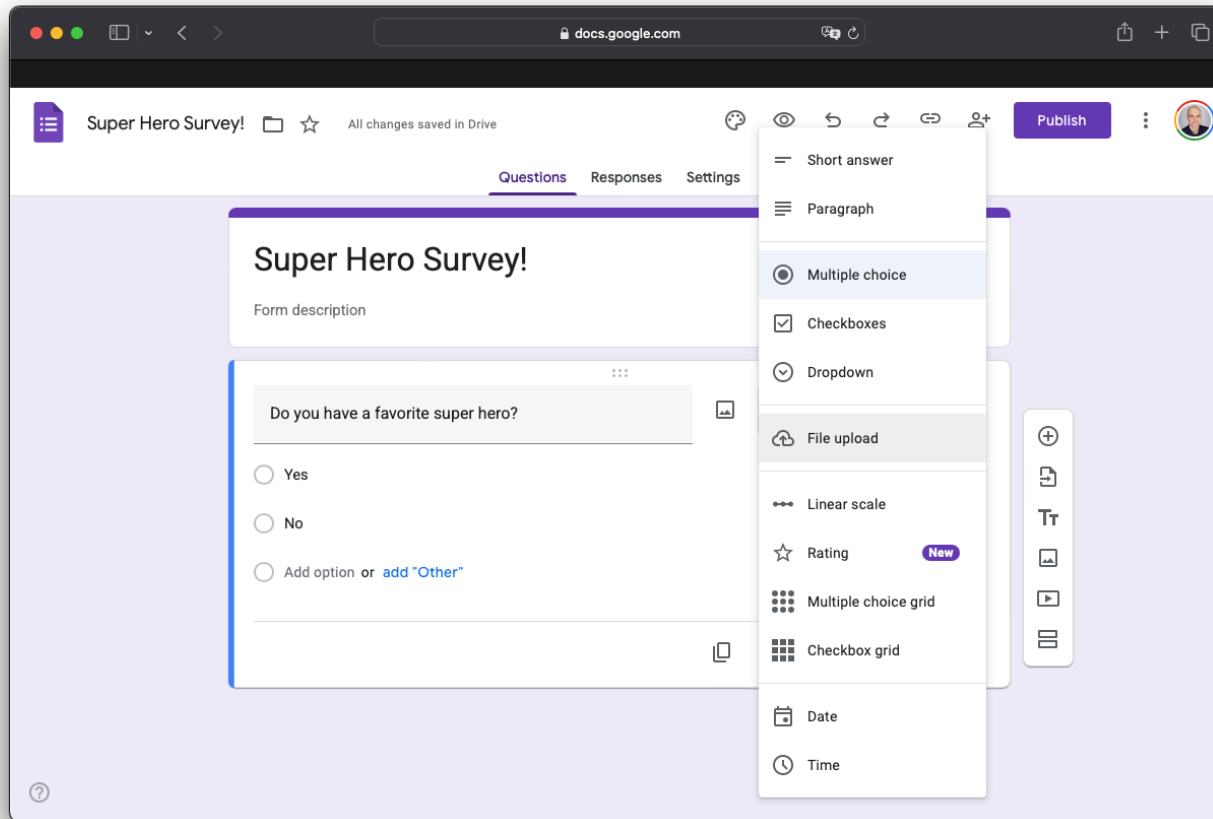
Do you have a favorite super hero? *

Yes

No

Next

WYSIWYG Interface



- ⊗ Reproducibility
- ⊗ Version control
- ⊗ Limited features
- ⊗ Open source

Why not make surveys
from **code**?

~~Limitations~~

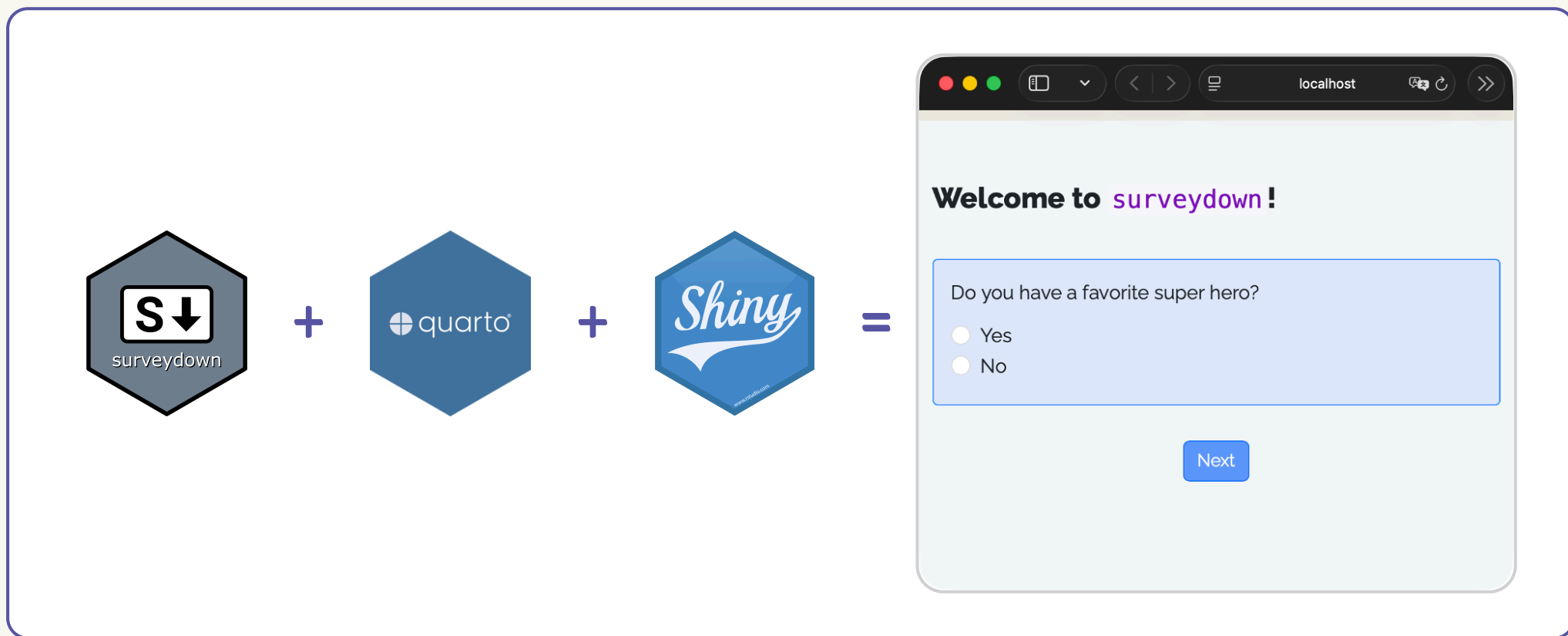
Features

- ✓ Reproducibility
- ✓ Version control
- ✓ Lots of features
- ✓ Open source

Introducing **surveydown**!



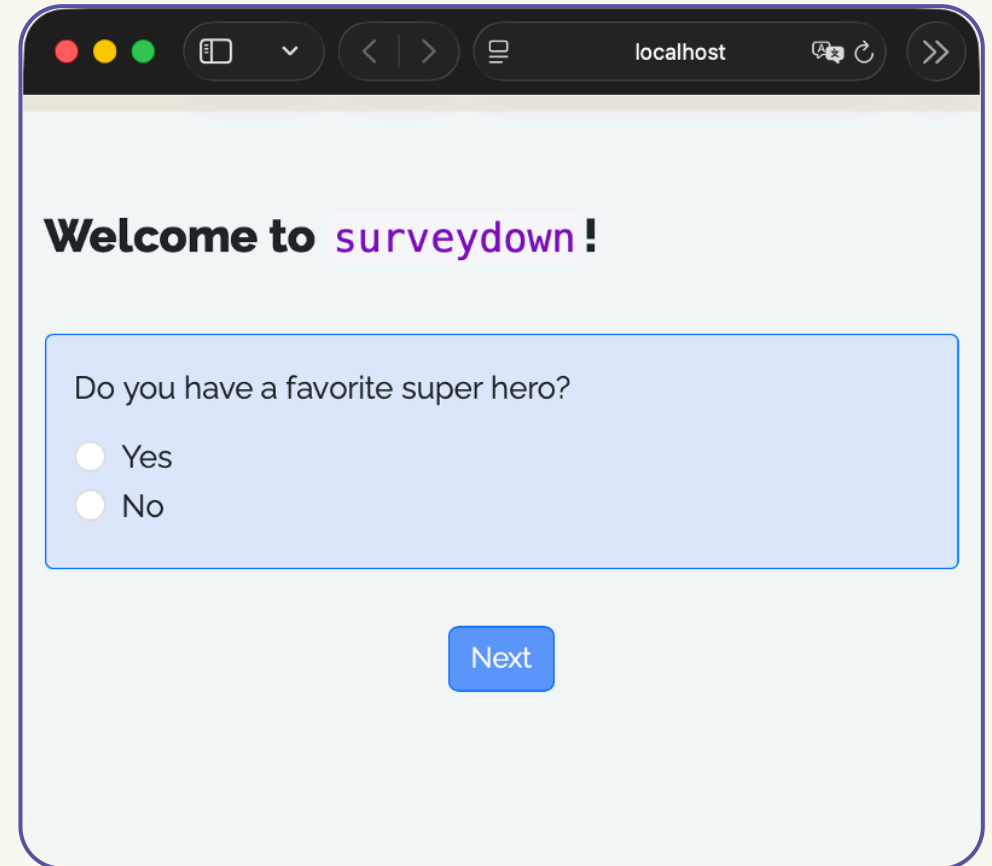
Survey design using Quarto and Shiny



survey.qmd

```
1 ---
2 survey-settings:
3   use-cookies: true
4   rate-survey: false
5 ---
6
7 ```{r}
8 library(surveydown)
9 ```
10
11 --- welcome
12
13 # Welcome to `surveydown`!
14
15 ```{r}
16 sd_question(
17   type = "mc",
18   id   = "has_fav_hero",
19   label = "Do you have a favorite super hero?",
20   option = c(
21     "Yes" = "yes",
22     "No"  = "no"
23   )
24 )
25 ```
26
27 --- some_other_page
28
29 Other content...
```

Rendered Survey



But...



Code-Only Interface

No GUI. Not everyone is comfortable working purely in code.



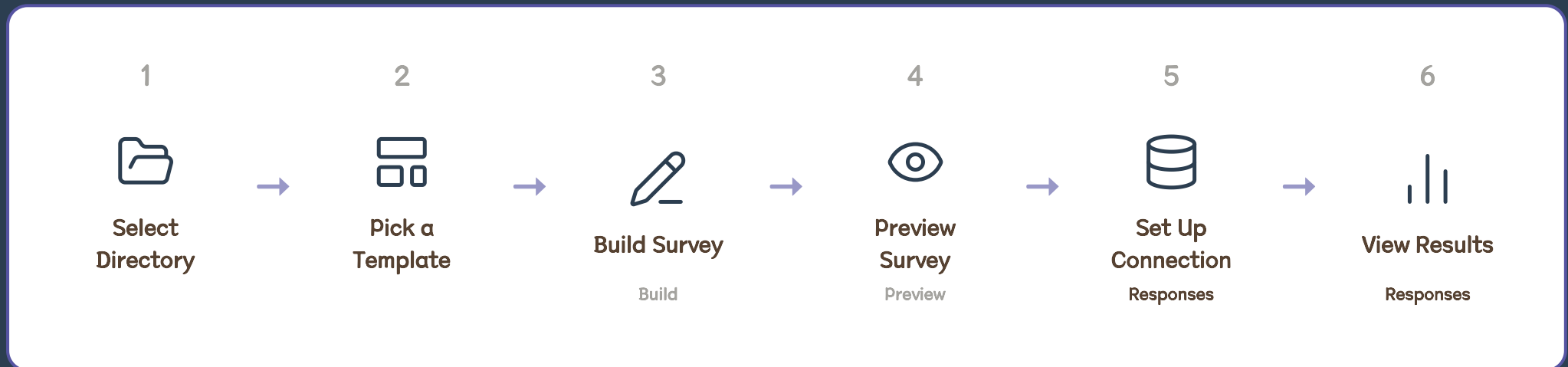
Learning Curve

The survey pipeline is not obvious. It takes time to learn.

Introducing **sdstudio**!



Studio Workflow



Launch with a simple command

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

Landing Page

surveydown Studio **Build** Preview Responses

127.0.0.1

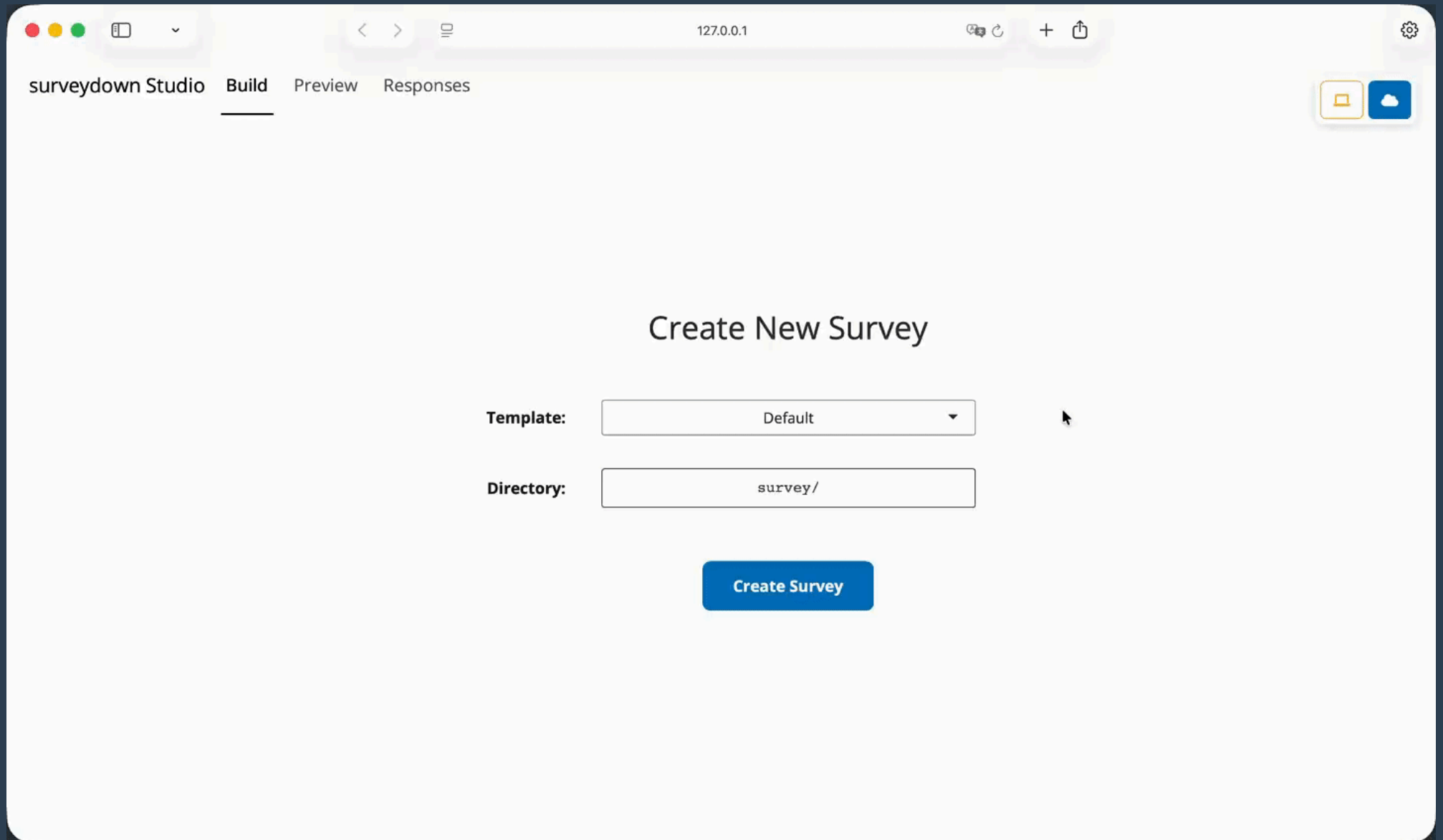
Create New Survey

Template:

Directory:

[Create Survey](#)

Start with a **Template**



surveydown.org/templates

The screenshot shows a web browser displaying the surveydown.org/templates page. The browser's address bar shows 'surveydown.org' and the page title is 'Templates - surveydown.org'. The website has a dark blue header with navigation links: 'surveydown.org', 'About', 'Documentation', 'Templates', and 'Blog'. On the right side of the header are links for 'FAQ', social media icons, and a search icon.

The main content area is divided into three columns:

- Left Column (Navigation):** A sidebar with a 'Templates' header and several categories with expandable arrows:
 - Basic:** Default Template, Question Types, Questions Defined with YAML
 - Conditions:** Conditional Showing, Conditional Skipping, Conditional Stopping
 - Randomization:** Random Options, Random Options Predefined, Option Shuffling
 - Reactivity:** Reactive Questions, Reactive drilldown, External Redirect, Live Polling
 - Conjoint:** Conjoint Buttons, Conjoint Tables
 - Custom:** Custom Leaflet Map, Custom Plotly Chart
- Middle Column (Main Content):**
 - ## Templates
 - To help you get started with surveydown, we created some templates that cover many of the features of the package. Feel free to use any as a starting point for your own surveys or as a reference for specific features.

Call `sd_create_survey()` with proper arguments to create your desired templates in your preferred directory. Refer to the [Start with a template](#) section for more details.
 - ### Default Template

Basic

A minimum template for starting from scratch.
 - ### Question Types

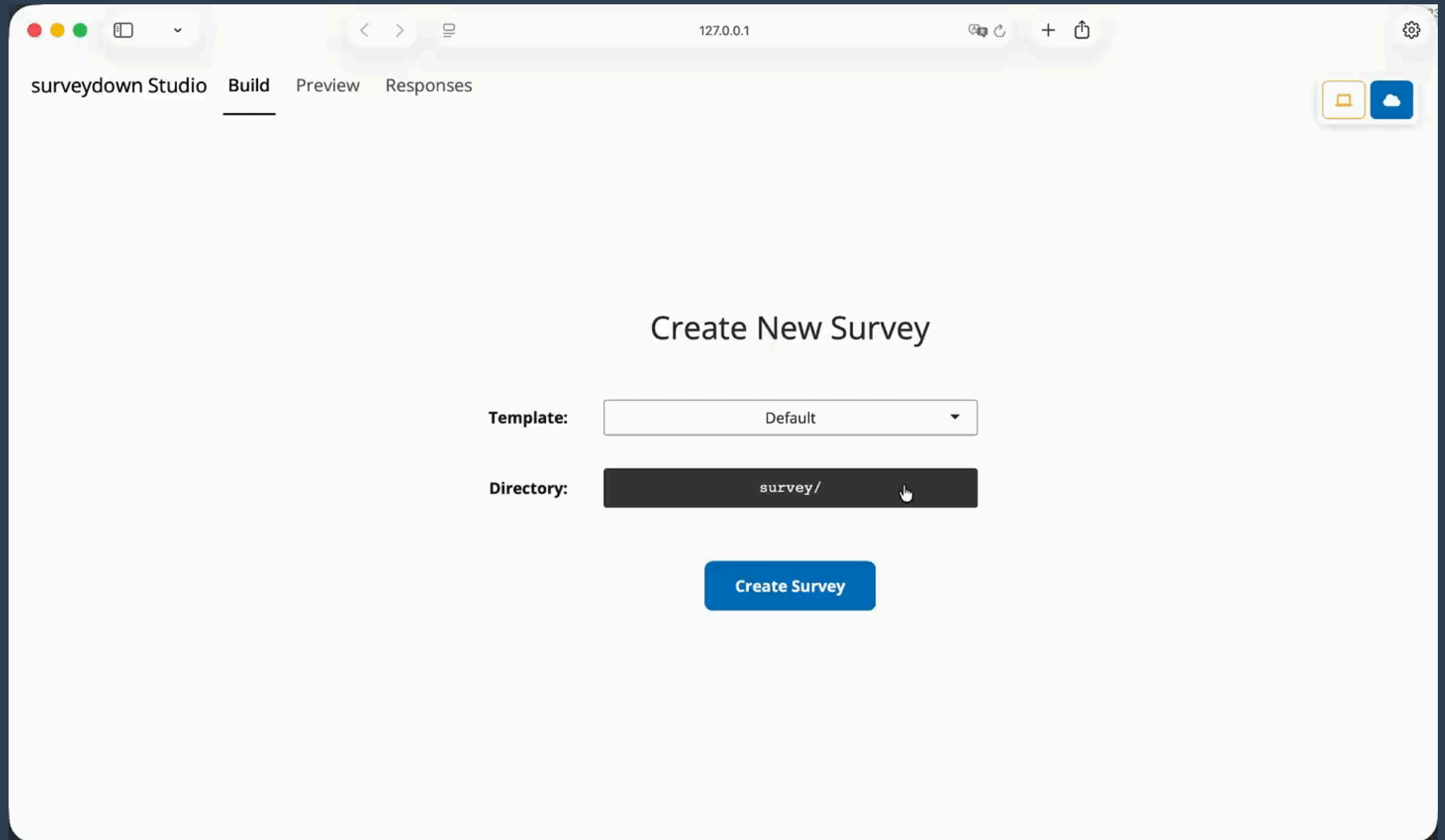
Basic

A template showcasing all built-in [question types](#).
 - ### Questions Defined with YAML

Basic

A template showcasing all built-in [question types](#) using a YAML file.
- Right Column (Categories):**
 - ### Categories
 - ALL (17)
 - Basic (3)
 - Conditions (3)
 - Conjoint (2)
 - Custom (2)
 - Randomization (3)
 - Reactivity (4)

Choose Your Directory



The Build Tab

surveydown Studio Build Preview Responses

Structure

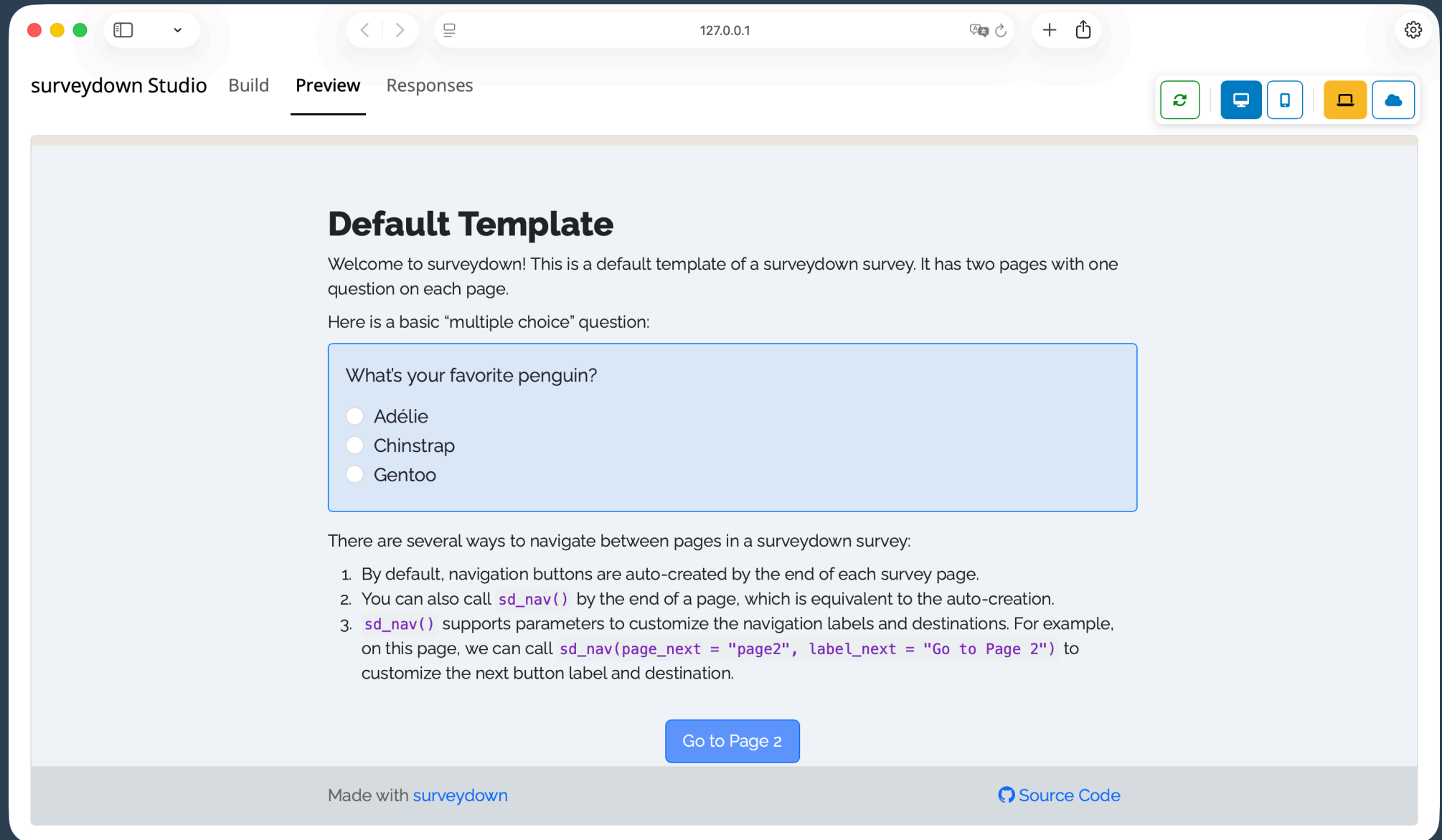
- Page: welcome
 - # Default Template Welcome to...
 - penguins | mc
What's your favorite penguin?
 - There are several ways to...
- Page: page2
 - This is another page in...
 - silly_word | text
Write a silly word here:
 - On this page, we don't...
- Page: end
 - ## End This is the...

Add A New Page

Code

```
survey.qmd app.R
37 --- welcome
38
39 # Default Template
40
41 Welcome to surveydown! This is a default template of a surveydown survey. It has two
42 pages with one question on each page.
43 Here is a basic "multiple choice" question:
44
45 ```{r}
46 sd_question(
47   type = 'mc',
48   id   = 'penguins',
49   label = "What's your favorite penguin?",
50   option = c(
51     'Adélie' = 'adelie',
52     'Chinstrap' = 'chinstrap',
53     'Gentoo' = 'gentoo'
54   )
55 )
56 ```
57
58 There are several ways to navigate between pages in a surveydown survey:
59
60 1. By default, navigation buttons are auto-created by the end of each survey page.
61 2. You can also call `sd_nav()` by the end of a page, which is equivalent to the
62   auto-creation.
63 3. `sd_nav()` supports parameters to customize the navigation labels and destinations.
64   For example, on this page, we can call `sd_nav(page_next = "page2", label_next = "Go to
65   Page 2")` to customize the next button label and destination.
66
67 ```{r}
```

The Preview Tab



The screenshot shows a web browser window with the URL 127.0.0.1. The browser's address bar and navigation buttons are visible. The page title is "surveydown Studio" and the navigation menu includes "Build", "Preview" (which is underlined), and "Responses". On the right side of the browser, there are icons for refresh, desktop, mobile, tablet, and cloud. The main content area of the browser displays a survey titled "Default Template". The survey text reads: "Welcome to surveydown! This is a default template of a surveydown survey. It has two pages with one question on each page. Here is a basic 'multiple choice' question:" followed by a light blue box containing the question "What's your favorite penguin?" and three radio button options: "Adélie", "Chinstrap", and "Gentoo". Below the question box, there is a paragraph explaining navigation options and a numbered list of three points. At the bottom of the survey content, there is a blue button labeled "Go to Page 2". The footer of the survey page includes the text "Made with surveydown" and a link to "Source Code".

surveydown Studio Build Preview Responses

127.0.0.1

Default Template

Welcome to surveydown! This is a default template of a surveydown survey. It has two pages with one question on each page.

Here is a basic "multiple choice" question:

What's your favorite penguin?

- Adélie
- Chinstrap
- Gentoo

There are several ways to navigate between pages in a surveydown survey:

1. By default, navigation buttons are auto-created by the end of each survey page.
2. You can also call `sd_nav()` by the end of a page, which is equivalent to the auto-creation.
3. `sd_nav()` supports parameters to customize the navigation labels and destinations. For example, on this page, we can call `sd_nav(page_next = "page2", label_next = "Go to Page 2")` to customize the next button label and destination.


Go to Page 2


Made with [surveydown](#) [Source Code](#)


The Responses Tab

surveydown Studio Build Preview **Responses**

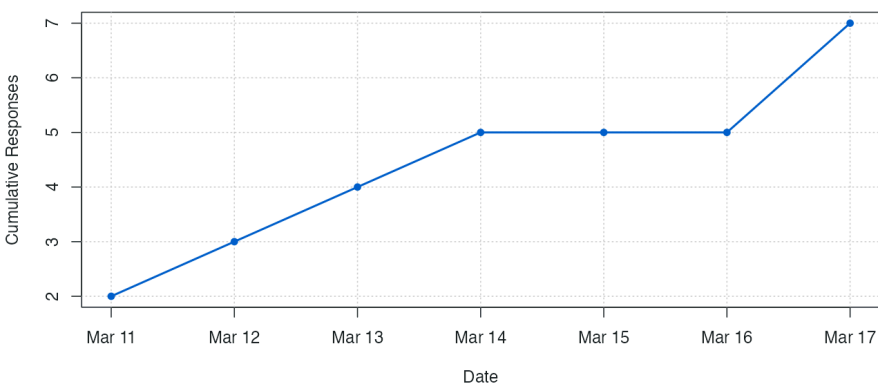
Choose a table to view:
preview_data.csv

 Total Responses
7

 Daily Average
1.3

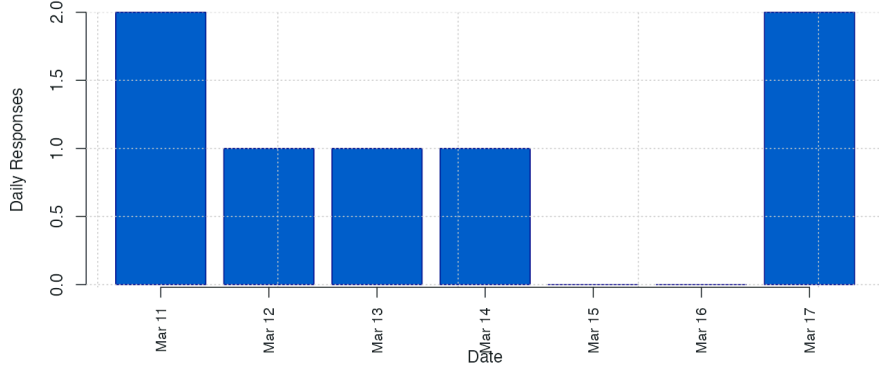
 Completion Rate
100.0%

Cumulative Responses



Date	Cumulative Responses
Mar 11	2
Mar 12	3
Mar 13	4
Mar 14	5
Mar 15	5
Mar 16	5
Mar 17	7

Daily Responses

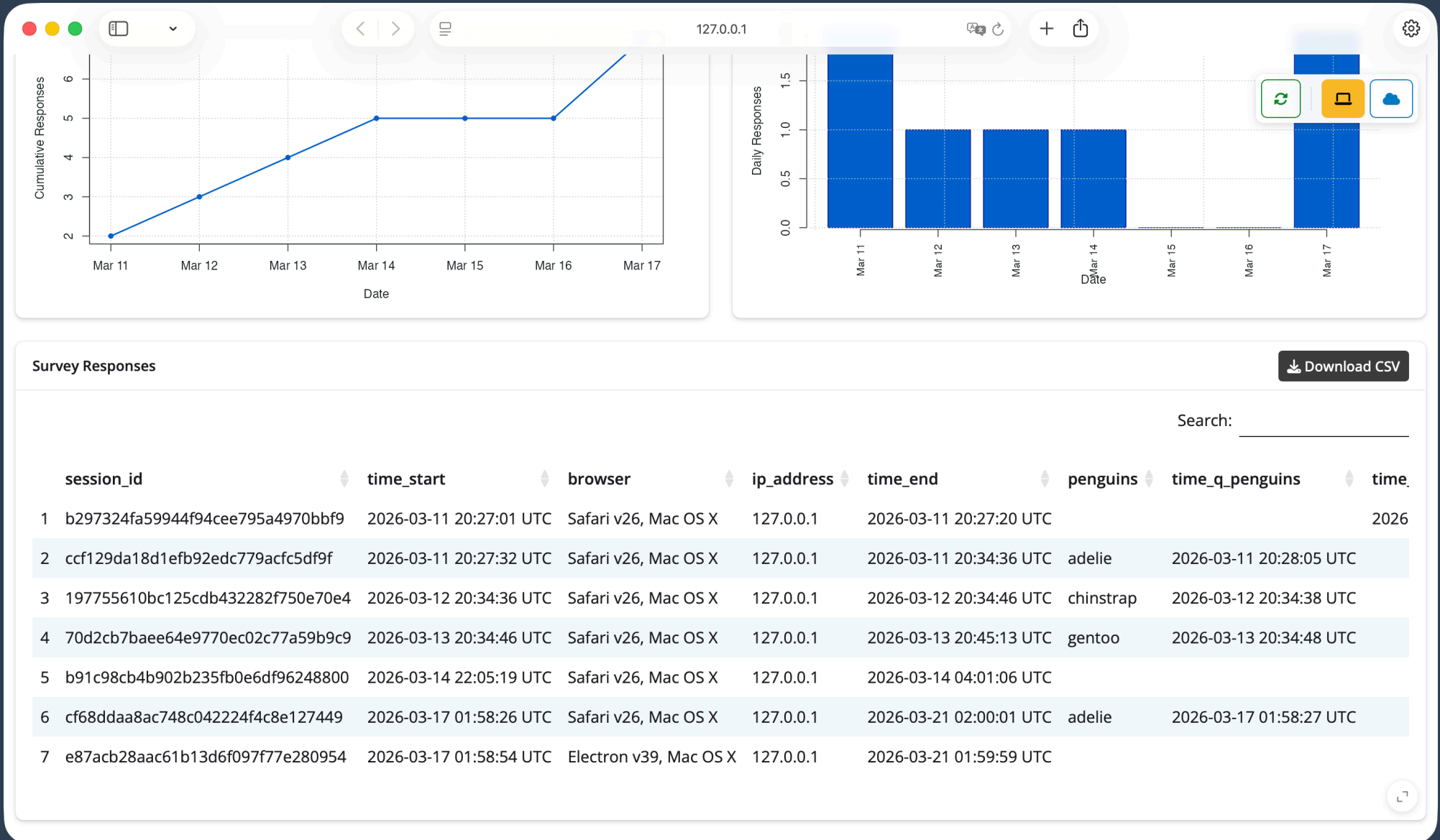


Date	Daily Responses
Mar 11	2.0
Mar 12	1.0
Mar 13	1.0
Mar 14	1.0
Mar 15	0.0
Mar 16	0.0
Mar 17	2.0

Survey Responses [Download CSV](#)

Search: _____

The Responses Tab - Continued



Studio Features

Self-explaining Icons

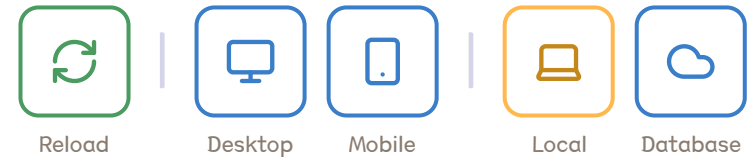
Editing



Add Texts Add Question

Edit Delete

Controlling



Reload

Desktop

Mobile

Local

Database

Editing

GUI



Point & Click

No coding required

or

Script



Edit Directly

Full code control

GUI - Toggling

The screenshot displays the surveydown Studio interface. The top navigation bar includes 'surveydown Studio', 'Build', 'Preview', and 'Responses'. The 'Structure' panel on the left shows a hierarchical view of the survey pages. The 'Code' panel on the right shows the R code for the survey, including the 'survey.qmd' and 'app.R' files. The code includes a multi-choice question about favorite penguins.

Structure Panel:

- Page: page1
 - # Title Some texts.
 - penguins | mc
What's your favorite penguin?
- Page: end
 - ## End This is the...

Code Panel:

```
33 library(surveydown)
34-  ```
35
36
37 --- page1
38
39- # Title
40
41 Some texts.
42
43- ```{r}
44 sd_question(
45   type = 'mc',
46   id   = 'penguins',
47   label = "What's your favorite penguin?",
48   option = c(
49     'Adélie' = 'adelie',
50     'Chinstrap' = 'chinstrap',
51     'Gentoo' = 'gentoo'
52   )
53 )
54-  ```
55
56 --- end
57
58- ## End
59
60 This is the last page in the survey.
61
62- ```{r}
63 sd_close()
64-  ```
```

GUI - Content Editing

The screenshot displays the surveydown Studio interface. The top navigation bar includes 'surveydown Studio', 'Build', 'Preview', and 'Responses'. The 'Structure' panel on the left shows a hierarchical view of the survey content, including two pages: 'Page: page1' and 'Page: end'. The 'Code' panel on the right shows the R code for the survey, with the current line of code being edited: 'Some texts.'.

Structure Panel:

- Page: page1
 - # Title Some texts.
 - penguins | mc
What's your favorite penguin?
- Page: end
 - ## End This is the...

Code Panel:

```
33 library(surveydown)
34-  ```
35
36
37 --- page1
38
39- # Title
40
41 Some texts. |
42
43- ```{r}
44 sd_question(
45   type = 'mc',
46   id   = 'penguins',
47   label = "What's your favorite penguin?",
48   option = c(
49     'Adélie' = 'adelie',
50     'Chinstrap' = 'chinstrap',
51     'Gentoo' = 'gentoo'
52   )
53 )
54-  ```
55
56 --- end
57
58- ## End
59
60 This is the last page in the survey.
61
62- ```{r}
63 sd_close()
64-  ```
```

GUI - Content Addition

The screenshot displays the surveydown Studio interface. The top navigation bar includes 'surveydown Studio', 'Build', 'Preview', and 'Responses'. The 'Structure' panel on the left shows a hierarchical view of the survey content:

- Page: page1
 - # Title New texts.
 - penguins | mc
 - What's your favorite penguin?
- Page: end
 - ## End This is the...

An 'Add A New Page' button is located at the bottom of the Structure panel. The 'Code' panel on the right shows the corresponding R code for the survey structure:

```
33 library(surveydown)
34-  ```
35
36
37 --- page1
38
39- # Title
40
41 New texts.
42
43- ```{r}
44 sd_question(
45   type = 'mc',
46   id   = 'penguins',
47   label = "What's your favorite penguin?",
48   option = c(
49     'Adélie' = 'adelie',
50     'Chinstrap' = 'chinstrap',
51     'Gentoo' = 'gentoo'
52   )
53 )
54-  ```
55
56 --- end
57
58- ## End
59
60 This is the last page in the survey.
61
62- ```{r}
63 sd_close()
64-  ```
```

GUI - Page Addition

The screenshot displays the surveydown Studio interface. The top navigation bar includes 'surveydown Studio', 'Build', 'Preview', and 'Responses'. The 'Structure' panel on the left shows a hierarchical view of the survey pages. The first page, 'Page: page1', contains three elements: a title '# Title New texts.', a multiple-choice question 'penguins | mc' with the label 'What's your favorite penguin?', and a text question 'text_question | text' with the label 'Write something:'. The second page, 'Page: end', contains a title '## End This is the...'. An orange button labeled 'Add A New Page' is located at the bottom of the Structure panel. The 'Code' panel on the right shows the R code for the survey. The code defines two pages: 'page1' and 'page2'. The 'page1' code includes a title and a multiple-choice question about penguins. The 'page2' code includes a title and a text question. The code ends with '## End' and a closing statement 'This is the last page in the survey.'.

```
survey.qmd  app.R
41 new texts.
42
43- ```{r}
44 sd_question(
45   type = 'mc',
46   id   = 'penguins',
47   label = "What's your favorite penguin?",
48   option = c(
49     'Adélie' = 'adelie',
50     'Chinstrap' = 'chinstrap',
51     'Gentoo' = 'gentoo'
52   )
53 )
54- ```
55- ```{r}
56 sd_question(
57   type = "text",
58   id   = "text_question",
59   label = "Write something:"
60 )
61- ```
62
63
64 --- end
65
66- ## End
67
68 This is the last page in the survey.
69
70- ```{r}
71 sd_close()
72- ```
```

GUI - Page Relocation

The screenshot displays the surveydown Studio interface. The top navigation bar includes 'surveydown Studio', 'Build', 'Preview', and 'Responses'. The 'Structure' panel on the left shows a hierarchical view of the survey pages:

- Page: page1**
 - # Title New texts.
 - penguins | mc
What's your favorite penguin?
 - text_question | text
Write something:
- Page: page2**
 - This is page 2.
- Page: end**
 - ## End This is the...

An 'Add A New Page' button is located at the bottom of the Structure panel. The 'Code' panel on the right shows the R code for the survey.qmd file:

```
41 new texts.  
42  
43- ```{r}  
44 sd_question(  
45   type = 'mc',  
46   id   = 'penguins',  
47   label = "What's your favorite penguin?",  
48   option = c(  
49     'Adélie' = 'adelie',  
50     'Chinstrap' = 'chinstrap',  
51     'Gentoo' = 'gentoo'  
52   )  
53 )  
54- ```  
55- ```{r}  
56 sd_question(  
57   type = "text",  
58   id   = "text_question",  
59   label = "Write something:"  
60 )  
61- ```  
62  
63  
64 --- page2  
65  
66 This is page 2.  
67  
68  
69 --- end  
70  
71- ## End  
72
```

GUI - Content Relocation

The screenshot displays the surveydown Studio interface. The top navigation bar includes 'surveydown Studio', 'Build', 'Preview', and 'Responses'. The left sidebar, titled 'Structure', shows a hierarchical view of the survey content:

- Page: page1
 - # Title New texts.
 - penguins | mc
What's your favorite penguin?
 - text_question | text
Write something:
- Page: page2
 - This is page 2.
- Page: end
 - ## End This is the...

An orange button at the bottom of the Structure panel reads 'Add A New Page'. The right sidebar, titled 'Code', shows the R code for 'app.R' corresponding to the survey structure:

```
41 new texts.  
42  
43- ```{r}  
44 sd_question(  
45   type = 'mc',  
46   id   = 'penguins',  
47   label = "What's your favorite penguin?",  
48   option = c(  
49     'Adélie' = 'adelie',  
50     'Chinstrap' = 'chinstrap',  
51     'Gentoo' = 'gentoo'  
52   )  
53 )  
54- ```  
55- ```{r}  
56 sd_question(  
57   type = "text",  
58   id   = "text_question",  
59   label = "Write something:"  
60 )  
61- ```  
62  
63  
64 --- page2  
65  
66 This is page 2.  
67  
68  
69 --- end  
70  
71- ## End  
72
```

Script Editing

The screenshot displays the surveydown Studio interface, which is used for creating and editing surveys. The interface is divided into two main panels: Structure and Code.

Structure Panel: This panel shows the hierarchical structure of the survey. It is organized into pages:

- Page: page1**: Contains two elements:
 - A text element with the title "# Title New texts."
 - A multiple-choice question with the title "penguins | mc" and the label "What's your favorite penguin?".
- Page: page2**: Contains two elements:
 - A text element with the title "This is page 2."
 - A text question with the title "text_question | text" and the label "Write something:".
- Page: end**: Contains one element:
 - A text element with the title "## End This is the..."

At the bottom of the Structure panel, there is a button labeled "Add A New Page".

Code Panel: This panel shows the R script used to generate the survey. The script is named "survey.qmd" and "app.R". The code defines the survey structure using the `sd_question()` function:

```
44 sd_question(  
45   type = 'mc',  
46   id   = 'penguins',  
47   label = "What's your favorite penguin?",  
48   option = c(  
49     'Adélie' = 'adelie',  
50     'Chinstrap' = 'chinstrap',  
51     'Gentoo' = 'gentoo'  
52 )  
53 )  
54 ~~~  
55 --- page2  
56  
57 This is page 2.  
58  
59 ~~~{r}  
60 sd_question(  
61   type = "text",  
62   id   = "text_question",  
63   label = "Write something:"  
64 )  
65 ~~~  
66  
67 --- end  
68  
69 ## End  
70  
71 This is the last page in the survey.  
72  
73 ~~~{r}  
74 sd_close()  
75 ~~~
```

Instant Preview

The screenshot displays the surveydown Studio interface. At the top, there are navigation tabs for 'Build', 'Preview', and 'Responses'. The 'Structure' panel on the left shows a hierarchical view of the survey pages. It includes three pages: 'Page: page1', 'Page: page2', and 'Page: end'. Each page contains a list of elements such as text blocks and questions. For example, 'Page: page1' has a title '# Title New texts.' and a multiple-choice question 'penguins | mc' with the label 'What's your favorite penguin?'. The 'Code' panel on the right shows the corresponding R code for the survey. The code defines the survey structure using the 'sd_question' function, specifying the type (e.g., 'mc' for multiple choice), id, label, and options for each question. The code is organized into sections for 'page1' and 'page2'.

```
34- ...
35- ...
36- ...
37- --- page1
38- ...
39- # Title
40- ...
41- New texts.
42- ...
43- ```{r}
44- sd_question(
45-   type = 'mc',
46-   id = 'penguins',
47-   label = "What's your favorite penguin?",
48-   option = c(
49-     'Adélie' = 'adelie',
50-     'Chinstrap' = 'chinstrap',
51-     'Gentoo' = 'gentoo'
52-   )
53- )
54- ...
55- --- page2
56- ...
57- This is page 2.
58- ...
59- ```{r}
60- sd_question(
61-   type = "text",
62-   id = "text_question",
63-   label = "Write something:"
64- )
65- ...
```

Views

Desktop



Full-width Layout

Optimized for large screens

+

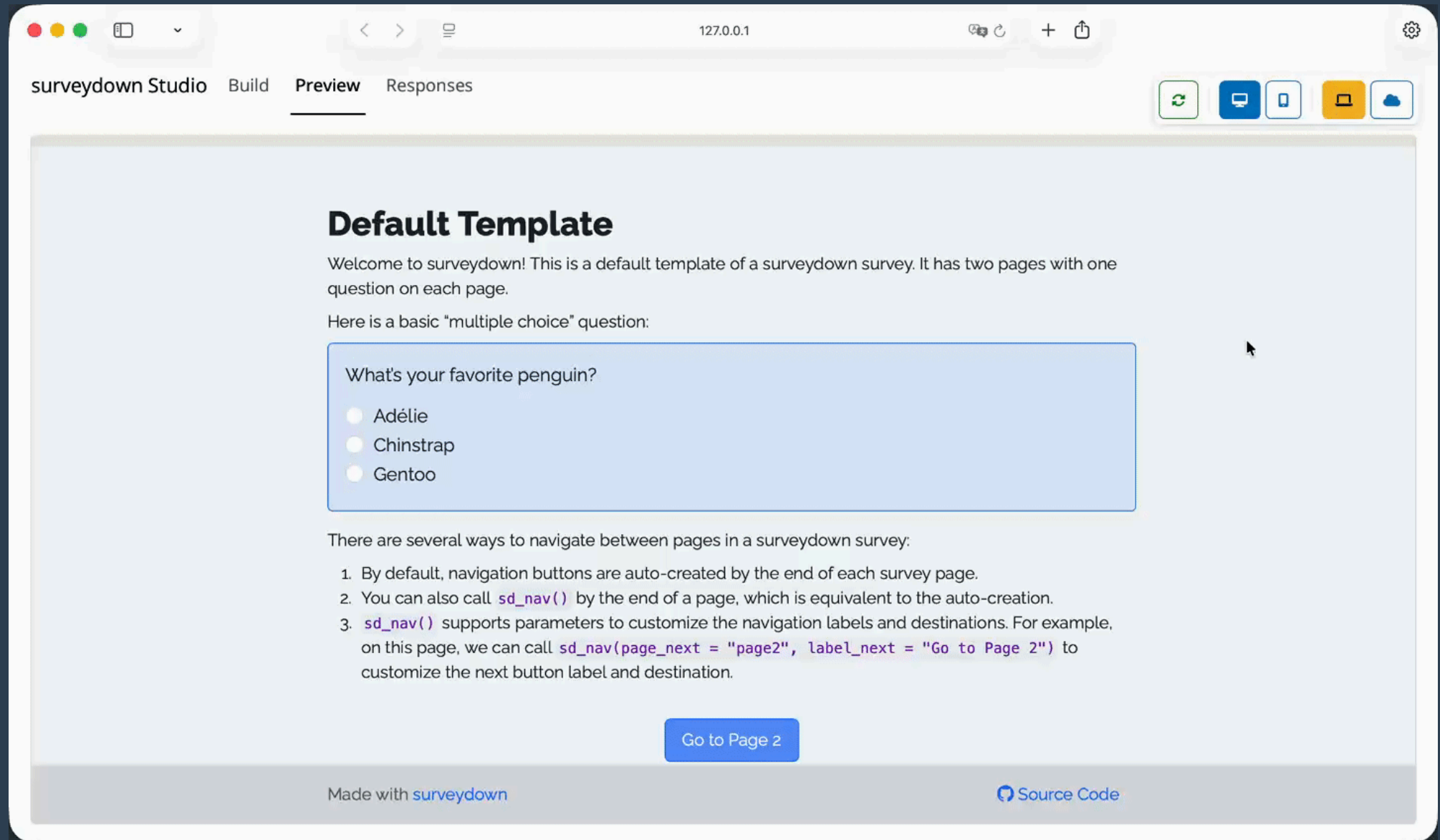
Mobile



Responsive Layout

Optimized for small screens

Desktop and Mobile Views



surveydown Studio Build Preview Responses

Default Template

Welcome to surveydown! This is a default template of a surveydown survey. It has two pages with one question on each page.

Here is a basic "multiple choice" question:

What's your favorite penguin?

- Adélie
- Chinstrap
- Gentoo

There are several ways to navigate between pages in a surveydown survey:

1. By default, navigation buttons are auto-created by the end of each survey page.
2. You can also call `sd_nav()` by the end of a page, which is equivalent to the auto-creation.
3. `sd_nav()` supports parameters to customize the navigation labels and destinations. For example, on this page, we can call `sd_nav(page_next = "page2", label_next = "Go to Page 2")` to customize the next button label and destination.

[Go to Page 2](#)

Made with [surveydown](#) [Source Code](#)

Responses

Local



Local Storage

Responses saved as CSV

+

Database




Cloud Storage


Responses saved to Supabase


Local Responses

surveydown Studio Build Preview **Responses**

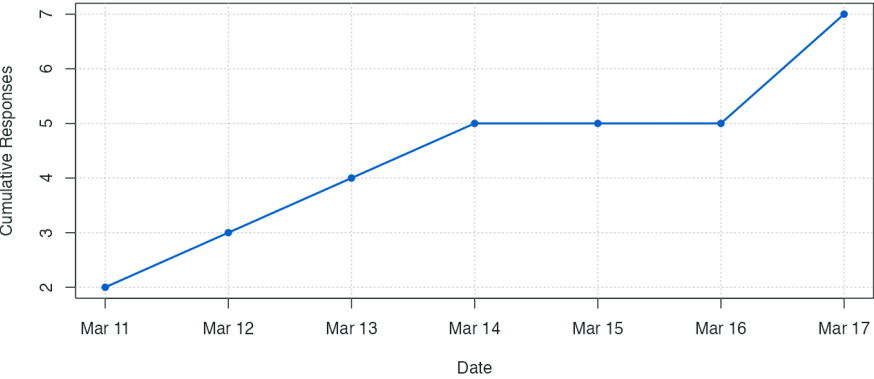
Choose a table to view:
preview_data.csv

 Total Responses **7**

 Daily Average **1.3**

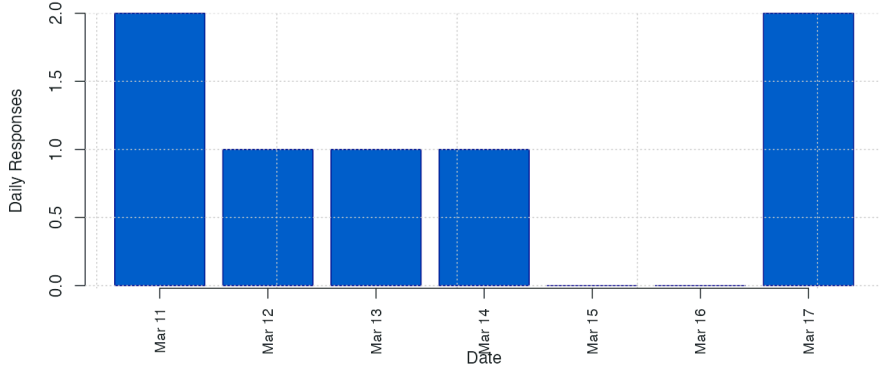
 Completion Rate **100.0%**

Cumulative Responses



Date	Cumulative Responses
Mar 11	2
Mar 12	3
Mar 13	4
Mar 14	5
Mar 15	5
Mar 16	5
Mar 17	7

Daily Responses



Date	Daily Responses
Mar 11	2.0
Mar 12	1.0
Mar 13	1.0
Mar 14	1.0
Mar 15	0.0
Mar 16	0.0
Mar 17	2.0

Survey Responses [Download CSV](#)


Search: _____


Database Responses


surveydown Studio Build Preview **Responses**

Database Connection [Settings](#) Not connected

Choose a table to view:
Select or type table name...

 Total Responses

 Daily Average

 Completion Rate

Cumulative Responses


Daily Responses


Database Responses


surveydown Studio Build Preview **Responses**

Database Connection [Settings](#) Not connected

Choose a table to view:

 Total Responses

 Daily Average

 Completion Rate

Cumulative Responses

Daily Responses

Database Responses

The screenshot shows a web browser window with the URL 127.0.0.1. The page title is "surveydown Studio" and the active tab is "Responses". The interface includes a "Database Connection" panel with a "Close" button. The panel contains the following fields: Host (empty), Port (empty), Database Name (postgres), User (empty), Password (masked with dots, with a "Show" button), and Table (default). A "Test Connection" button is located below these fields. In the top right corner of the panel, there is a "Not connected" status indicator. Below the connection panel, there is a section titled "Choose a table to view:" with a dropdown menu showing "Select or type table name...".

surveydown Studio Build Preview Responses

Database Connection [Close](#) ● Not connected

Host:

Port:

Database Name:

User:

Password:
 [Show](#)

Table:

[Test Connection](#)

Choose a table to view:

Database Responses

surveydown Studio Build Preview Responses

Database Connection Close Connected (GSSAPI disabled)

Host:

Port:

Database Name:

User:

Password: Show

Table:

Test Connection


Choose a table to view:


Database Responses


surveydown Studio Build Preview **Responses**

Database Connection [Settings](#) ● Connected (GSSAPI disabled)

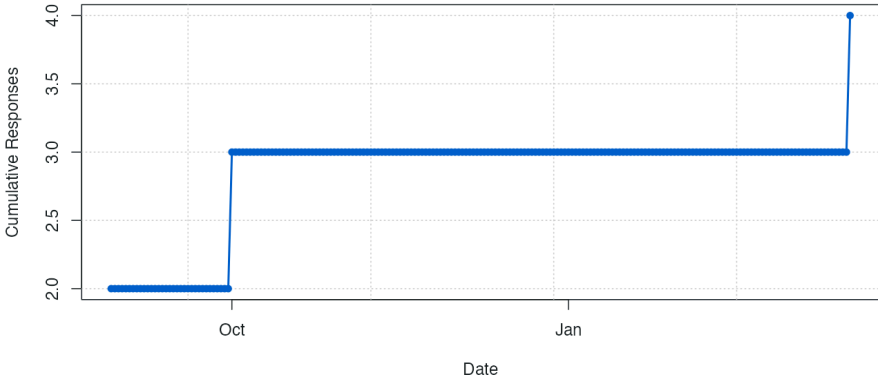
Choose a table to view:
default

 **Total Responses**
5

 **Daily Average**
0

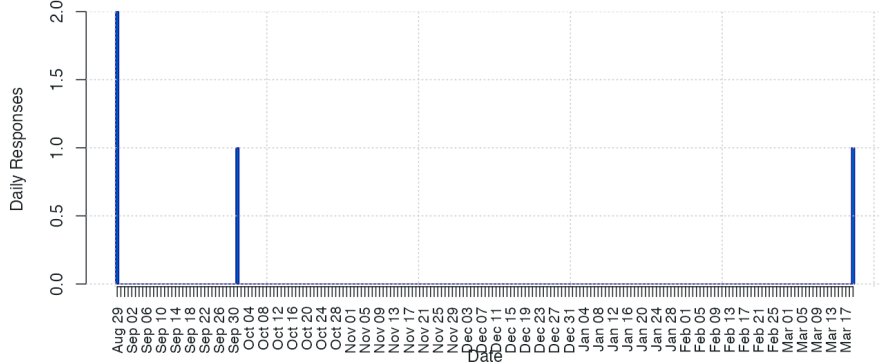
 **Completion Rate**
80.0%

Cumulative Responses



Date	Cumulative Responses
Aug 29	2.0
Oct 01	3.0
Mar 17	4.0

Daily Responses



Date	Daily Responses
Aug 29	2.0
Sep 30	1.0
Mar 17	1.0

sdstudio gives you...



GUI for Survey Editing



Live Preview



Response Dashboard



SQL Connection



Data View & Download



...and more!

surveydown + sdstudio

surveydown

 Text-based editing

 Published paper

 8000+ CRAN downloads

sdstudio

 GUI editing & live preview

 Actively developed

 Open to contributions

 Better together!

Ways to help:

github.com/surveydown-dev/sdstudio/

- Try it out!
- Give it a 🌟
- Post an issue
- Join the GitHub discussion
- Contribute new features



Meet the team!

surveydown.org



John Helveston, Ph.D.



Pingfan Hu



Bogdan Bunea

