Building Very Simple Web Applications

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Create static web applications

Create interactive web applications

Increase performance

Module Overview

- How to show text on a page
- How to add more content to a page
- How to click a button to show a message
- Adding more interactivity
- Use caching to speed up the page
- What is the lifecycle of a Streamlit web page

Demo

- **Show text**
  - **Use st.write()**
  - **Use magic commands**
- **Show data**
  - **Use st.table()**
  - **Use st.dataframe()**

How to Add More Content to a Page

Simple charts

- Use line_chart()
- Use area_chart()
- Use bar_chart()

Flexible charts

- Matplotlib
- Altair
- Plotly

Multimedia

- Images
- Audio
- Video

Adding Interactive Widgets

Button

Call st.button(...)

Returns True if pressed

Checkbox

Call st.checkbox(...)

Returns True if checked

Radio

Call st.radio(...)

Returns the selected option

Select box

Call st.selectbox(...)

Returns the selected option

More Widgets

Slider

Call st.slider(...)
Returns value or tuple

Multiselect

Call st.multiselect(...)
Returns list of options

Number input

Cal st.number_input(...)
Returns number

Demo

- Show the extra widgets
- Organize content with a sidebar
  - Use st.sidebar
- Organize code with some refactoring

Caching to Speed Up the Page

Why caching?

- **Downloading data takes a lot of time**
- **Some computations take a lot of time**

How to cache?

- **Decorate function with st.cache**

Tradeoffs

- **Memory consumption**
- **Data too old**

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What Is the Lifecycle of a Web Page?

Each run executes the whole Python file

Most widgets interactions trigger new runs

Widgets state

- **Preserved on the same page, except for buttons**
- **Not preserved across sidebar pages**
- **Upcoming feature to manage session state**

Up Next:
Building More Web Applications