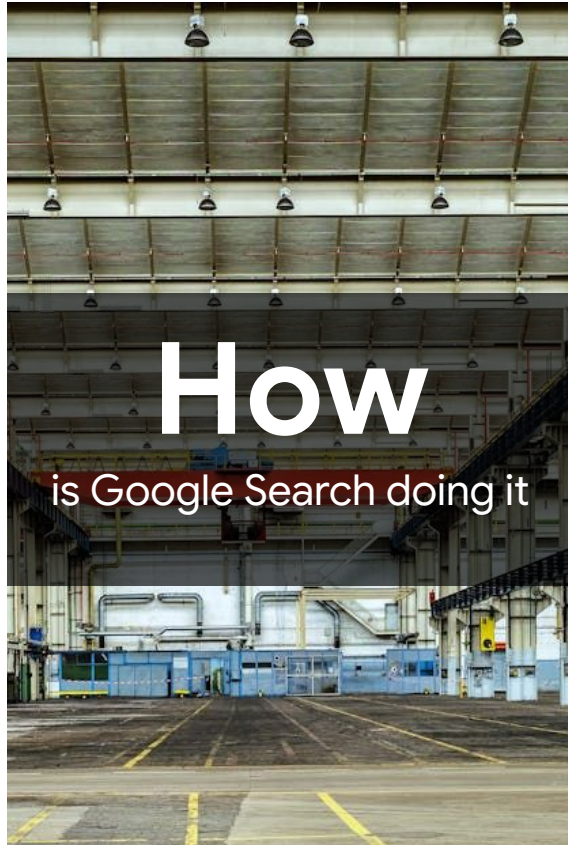




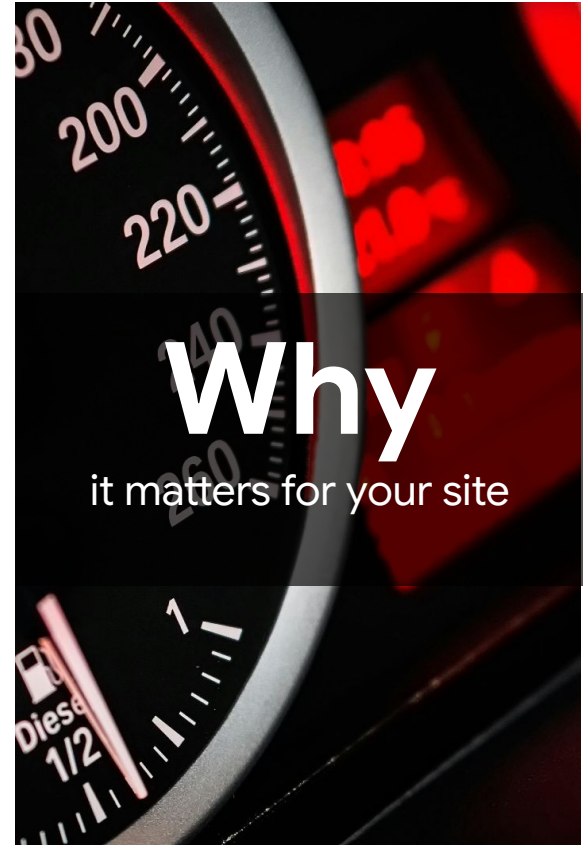
What

is rendering



How

is Google Search doing it

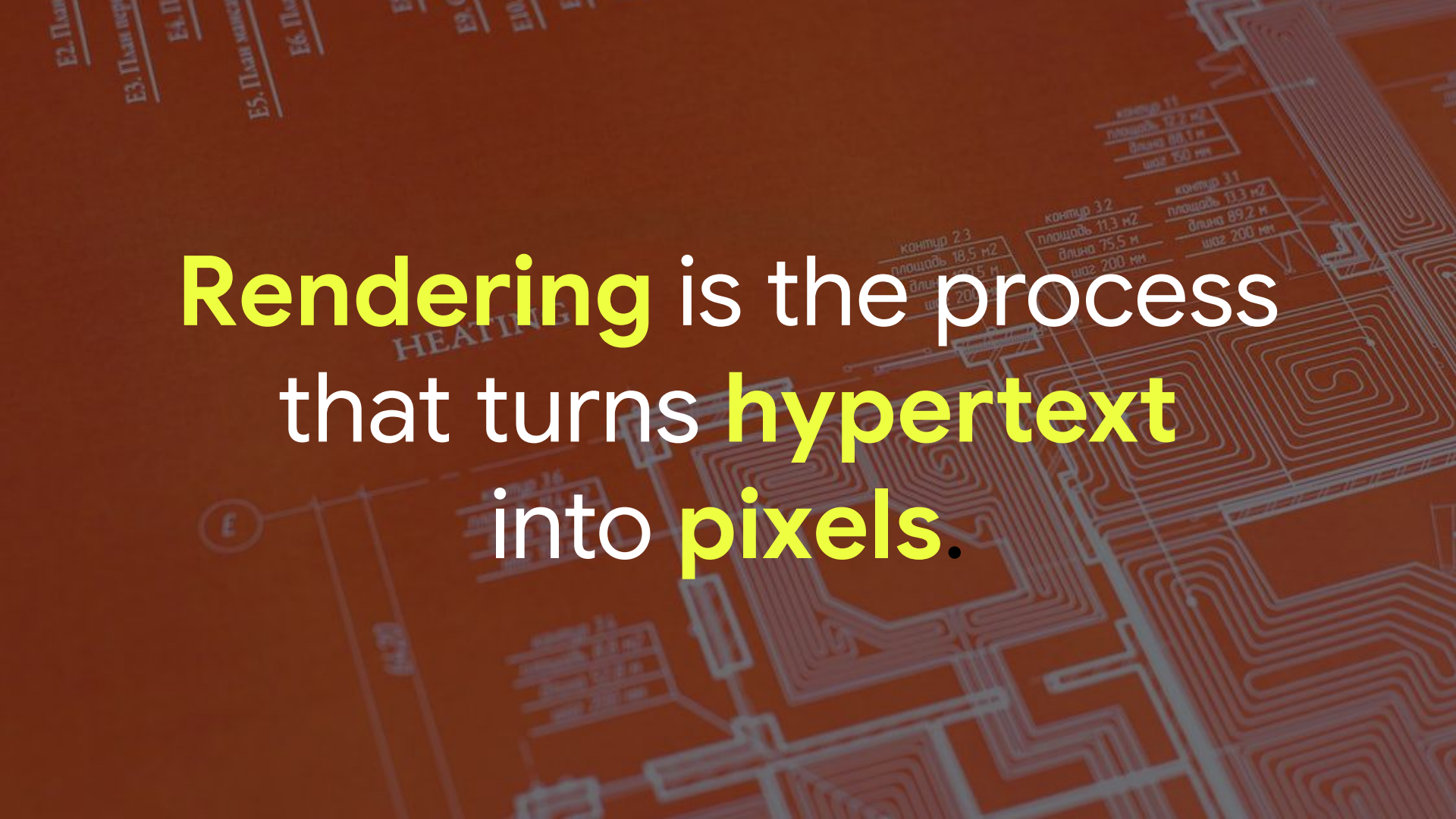


Why

it matters for your site



What is rendering?

The background is a technical drawing of a heating system layout, rendered in a dark red color. It features a complex network of lines representing pipes and radiators. Several rectangular areas are labeled with their respective area, length, and width. The text is overlaid on this drawing in a large, bold font. The word 'Rendering' is in yellow, while 'is the process that turns' and 'into pixels.' are in white. The word 'hypertext' is also in yellow. The overall image has a technical and architectural feel.

Rendering is the process
that turns **hypertext**
into **pixels**.

Imagine, if you will...

A house.

Let's say the house has **two floors** and a **pointy roof**.

It has **three windows** and a **door on the ground floor**.

It also has a **chimney**.



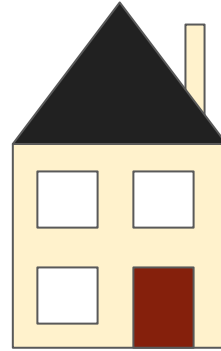
Imagine, if you will...

A house.

Let's say the house has **two floors** and a **pointy roof**.

It has **three windows** and a **door on the ground floor**.

It also has a **chimney**.



Imagine, if you will...

A house.

Let's say the house has **two floors** and a **pointy roof**.

It has **three windows** and a **door on the ground floor**.

It also has a **chimney**.



Imagine, if you will...

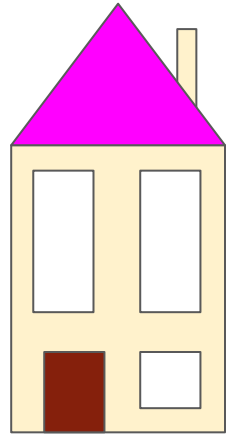
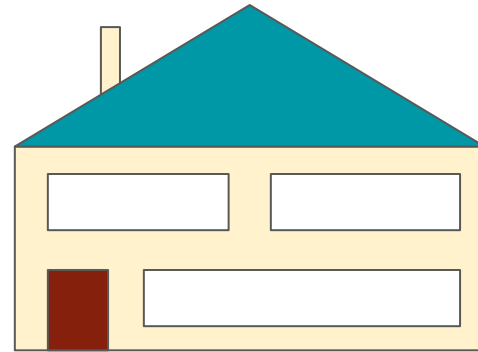
A house.

Let's say the house has **two floors** and a **pointy roof**.

It has **three windows** and a **door on the ground floor**.

It also has a **chimney**.

Which one is correct?!



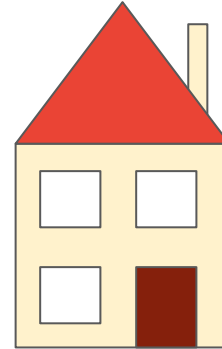
Imagine, if you will...

The source HTML:

```
<house floors="2">  
  <window />  
  <window />  
  <window />  
  <chimney />  
</house>
```



The rendered website
(*maybe*)



The **DOM** is your browser's "*mental model*" of a website. It's built from the HTML and may include modifications done with JavaScript.

```
<html lang="en">
<head>
  <title>My website</title>
</head>
<body>
  <h1>My cool website</h1>
  <p>This is my cool website!</p>
  <p>
    It's super cool!
  </p>
  
</body>
</html>
```

Rendering

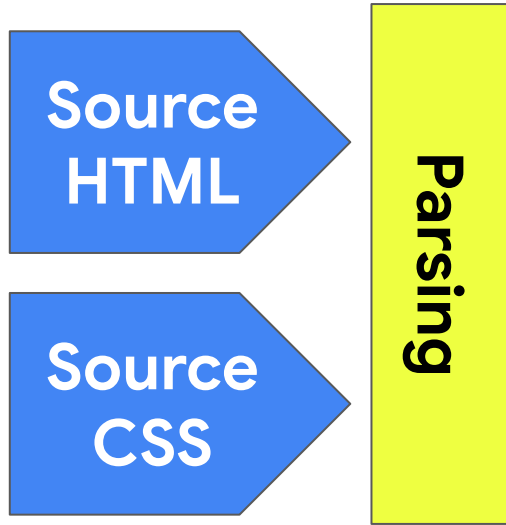
My cool website

This is my cool website!

It's super cool!

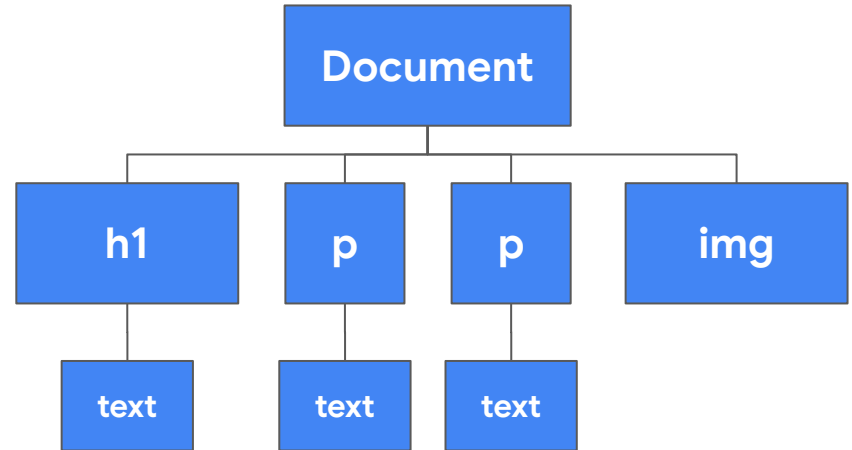


Rendering in detail

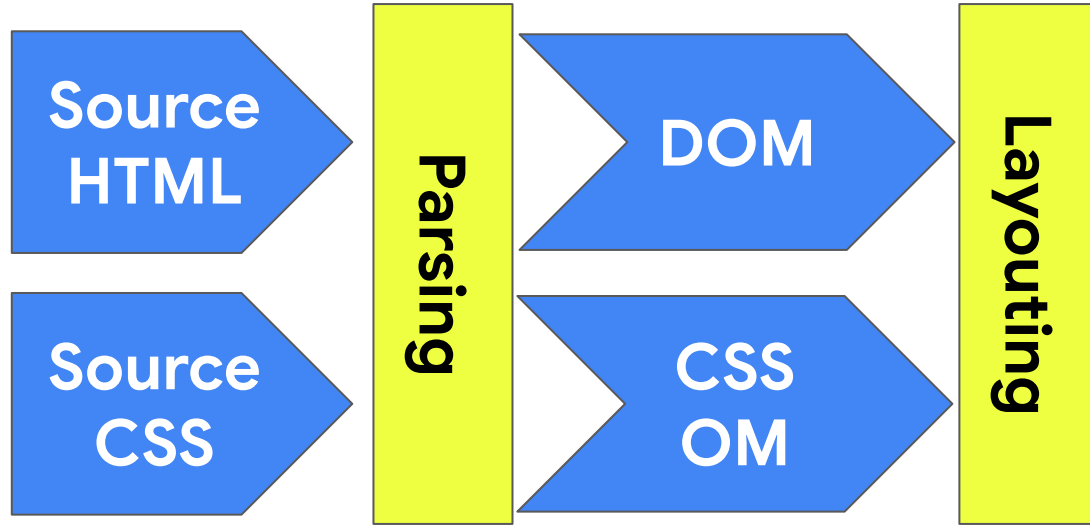


The Document Object Model

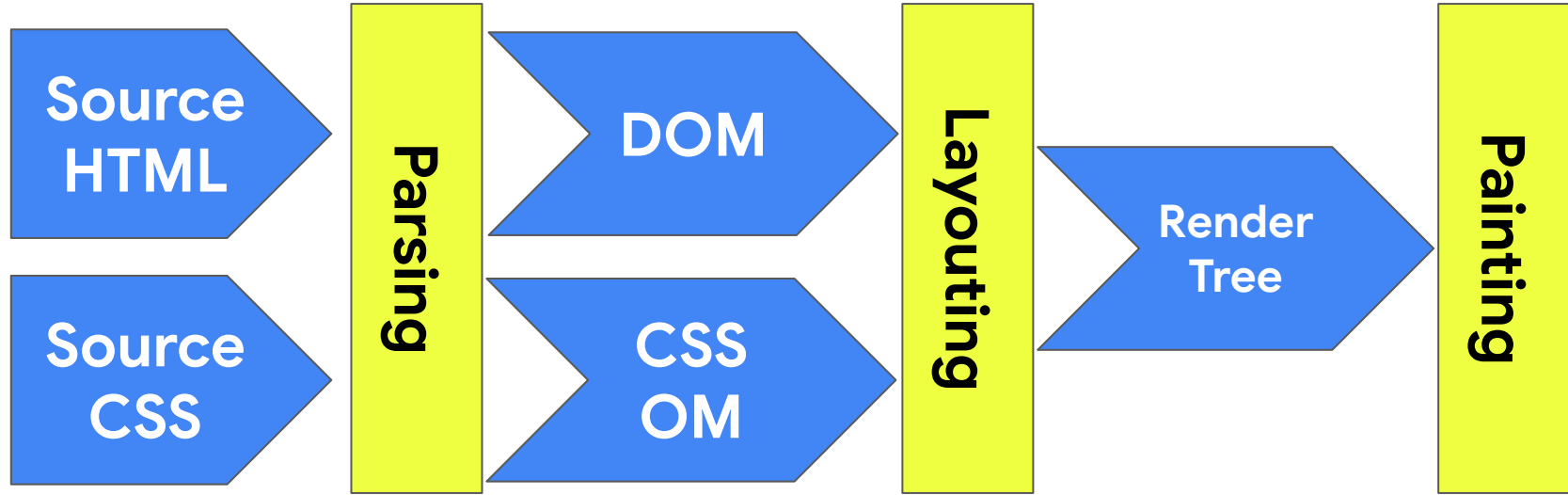
```
<html lang="en">
<head>
  <title>My website</title>
</head>
<body>
  <h1>My cool website</h1>
  <p>This is my cool website!</p>
  <p>
    It's super cool!
  </p>
  
</body>
</html>
```



Rendering in detail



Rendering in detail

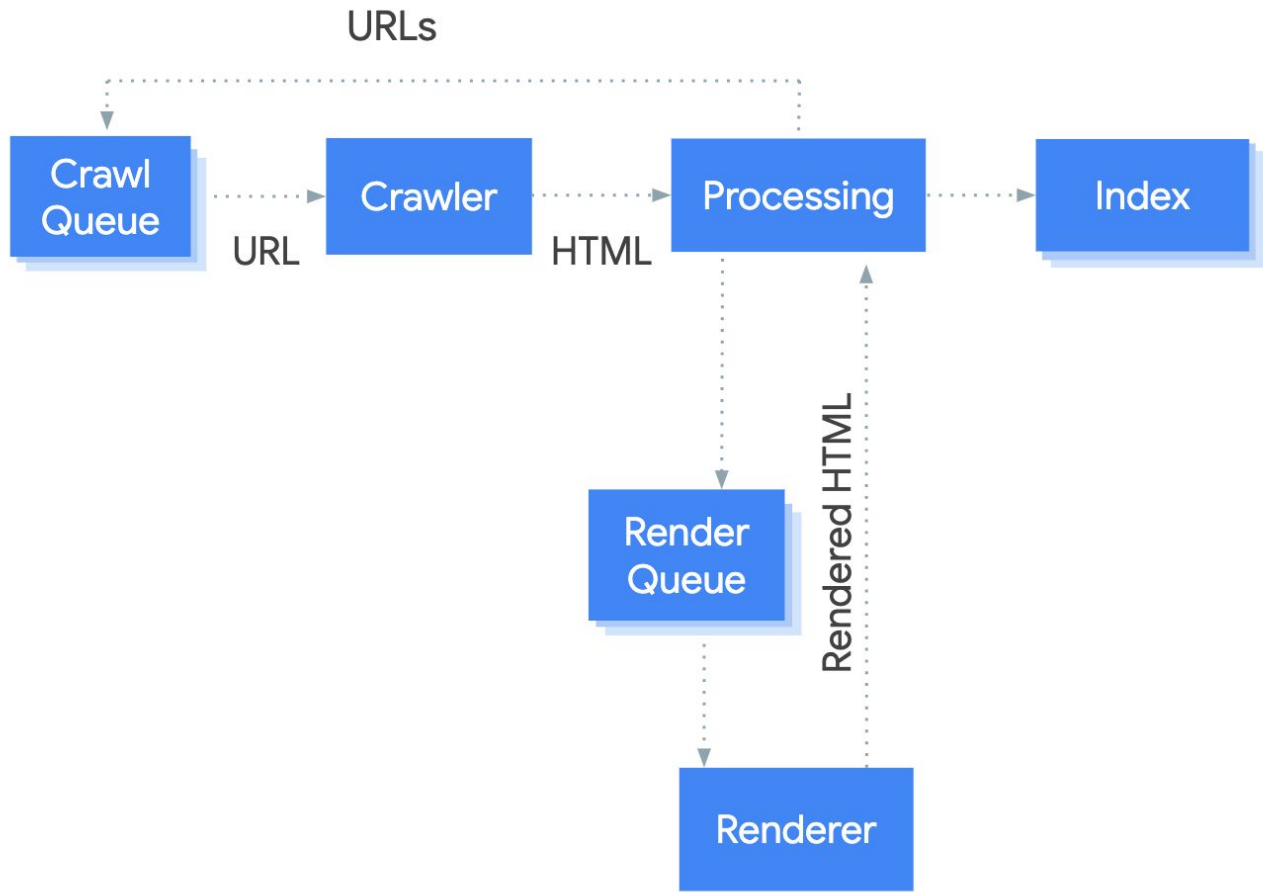


In your browser!



A wide-angle, low-perspective shot of a vast, empty industrial factory. The space is characterized by a high ceiling with a complex network of steel beams and numerous small, dark pendant lights. The floor is a dark, polished concrete with yellow safety lines. The walls are lined with various pipes, conduits, and structural elements. The overall atmosphere is one of a large-scale, modern manufacturing environment.

How does Google
do it?



A photograph of a wind turbine nacelle, showing three large circular openings. The background is dark and industrial, with blue and green pipes and scaffolding visible. The text "The rendered HTML gets indexed." is overlaid in the center, with "rendered HTML" in yellow and "The" and "gets indexed." in white.

The **rendered HTML**
gets indexed.

A close-up, slightly blurred photograph of a car's instrument cluster. The primary focus is a speedometer with a black face and white markings, ranging from 0 to 260 km/h. The needle is positioned around 100 km/h. To the right, a red digital display shows some numbers, though they are not clearly legible. The overall lighting is dim, with a strong red glow emanating from the digital display area. The word "Strategies" is overlaid in the center in a clean, white, sans-serif font.

Strategies

Rendering strategies

Template + **Data** = Website on screen.

Rendering is about where, when & how that happens.

Example: Product page

Startseite > Milchprodukte, Eier & frische Fertiggerichte > Käse > Raclette, Fondue & Grillkäse



9.30



Caquelon noir · Fondue Moitié-Moitié · 50% freiburger Vacherin und 50% Greyerzer
400g

Online-Angebot ansehen

 Verfügbarkeit in Filialen prüfen

Mehr Suchergebnisse



9.30

Caquelon noir
Fondue Moitié-Moitié · 50% ...
400g



13.70

Caquelon noir
Fondue Moitié-Moitié · 50% ...
600g



16.-

Caquelon noir
Fondue Moitié-Moitié · 50% ...
2 x 600g



23.80

Fondue Moitié-Moitié
2 x 400g

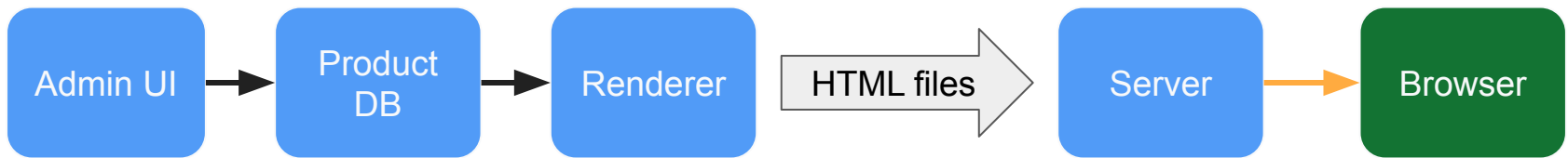
Wichtigste Merkmale

Nährwerte

Aufbewahrung & Verwendung

Weitere Angaben

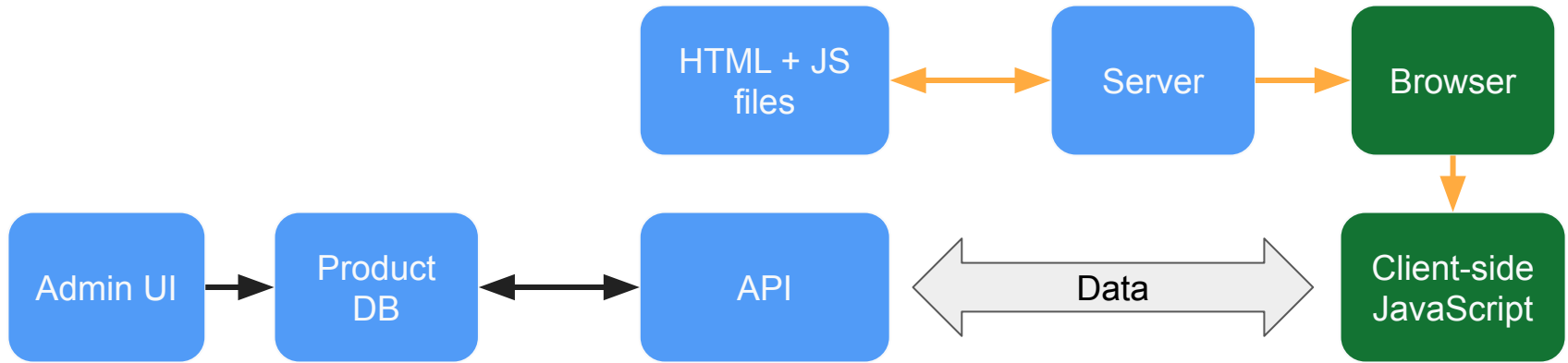
Pre-rendering



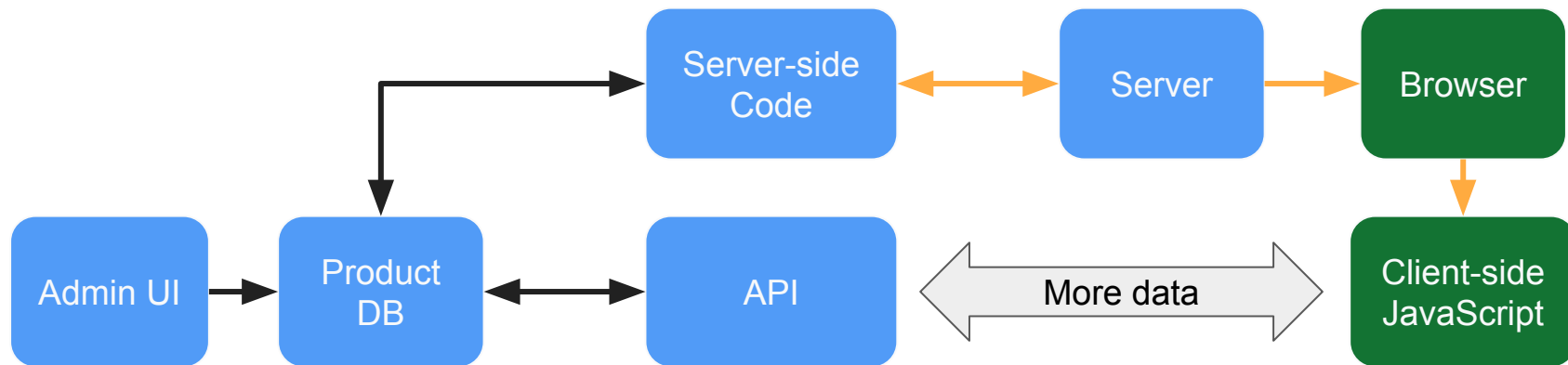
Server-side rendering



Client-side rendering

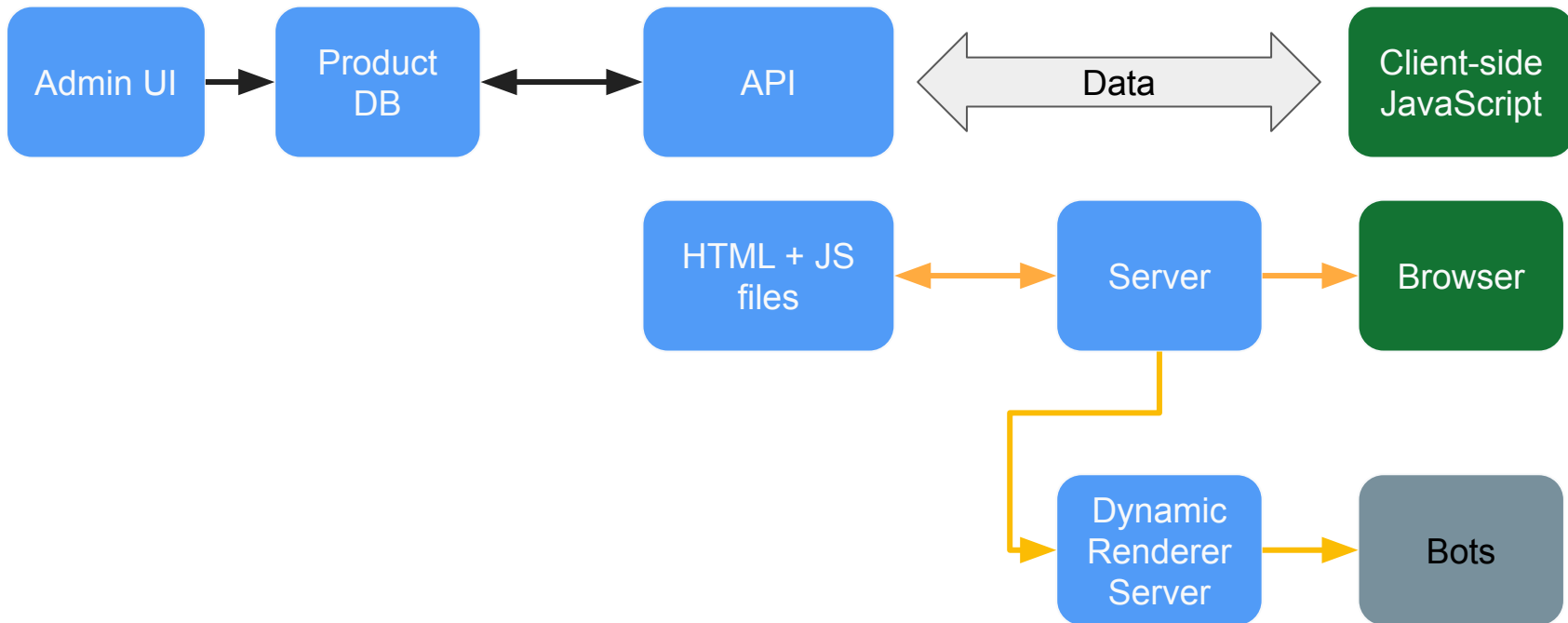


Client-side rendering + Hydration

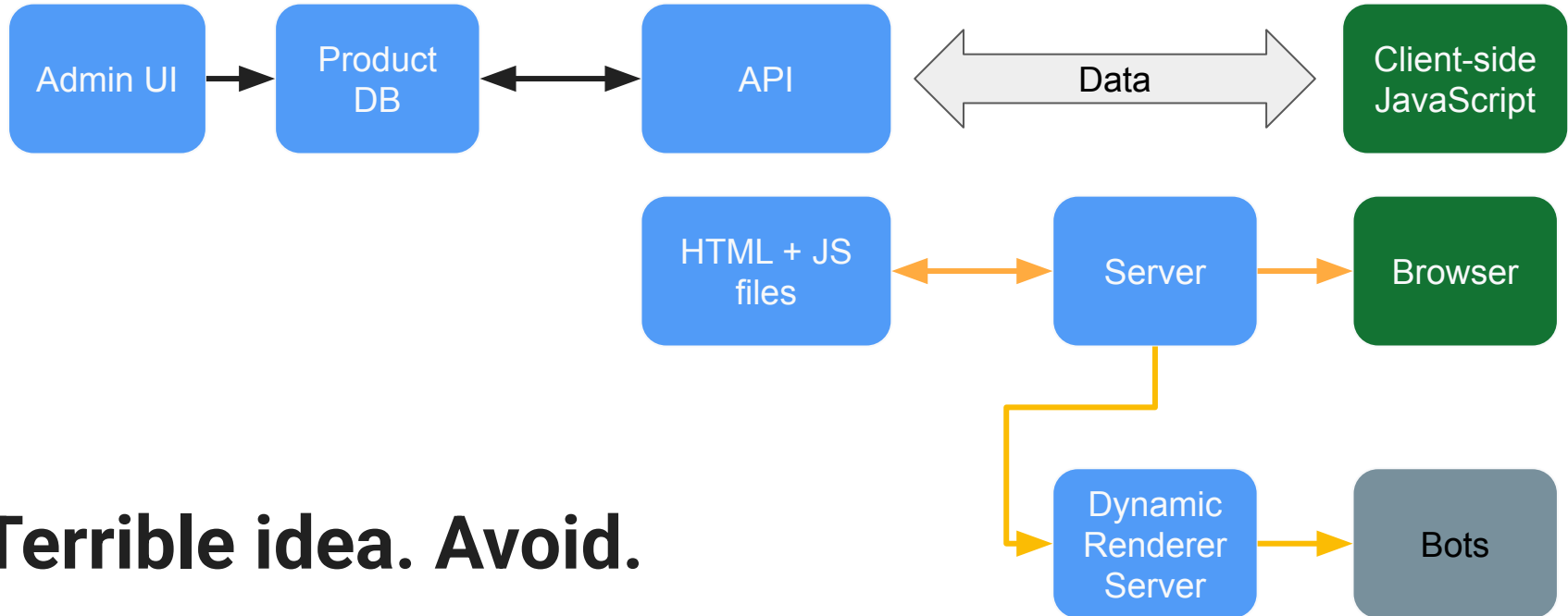


- Kind of a mix of SSR + CSR.
- Initial version has crucial data to show page
- Client-side JavaScript fetches more data

Dynamic rendering (don't do this at home)



Dynamic rendering (don't do this at home)



Terrible idea. Avoid.

Which one is the right one? It depends on...

- Change frequency
- Existing infrastructure
- Developer resources
- Business & operational needs
- User-experience & accessibility requirements



Thank you!