blueport

Optimization for Core Web Vitals

WILL FELDMAN

Contents

User Story

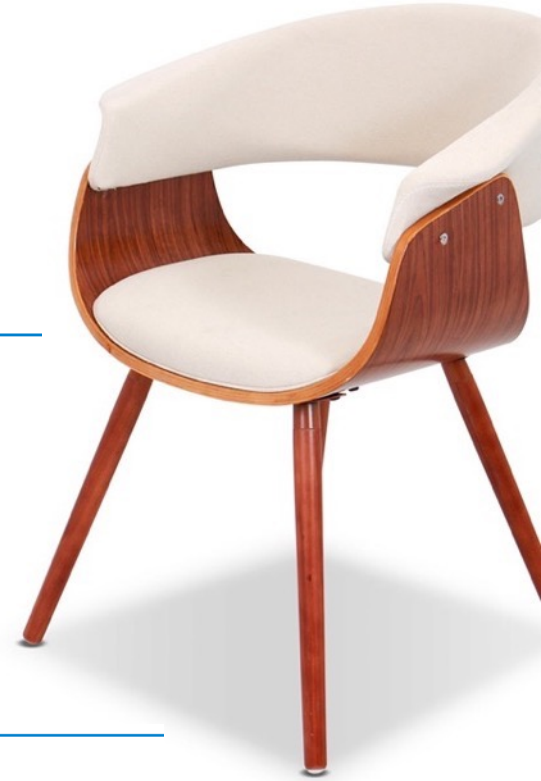# As a customer, I want...

- The page I am visiting to load quickly

- To have a positive experience viewing and purchasing furniture online

As a retailer, I want...

- Fast loading speeds for my customers

- To ensure a positive web experience

As a developer, I want to...

- Optimize the experience for customers

- Make sure that loading times are fast

Definitions

What are Core Web Vitals?

WEB VITALS

- **Web Vitals**: an initiative by Google to provide unified guidance for quality signals that are essential to delivering a great user experience on the web

CORE WEB VITALS

- **Core Web Vitals**: the subset of Web Vitals that apply to all web pages, should be measured by all site owners, and will be surfaced across all Google tools

METRICS

- Largest Contentful Paint (LCP)

- First Input Delay (FID)
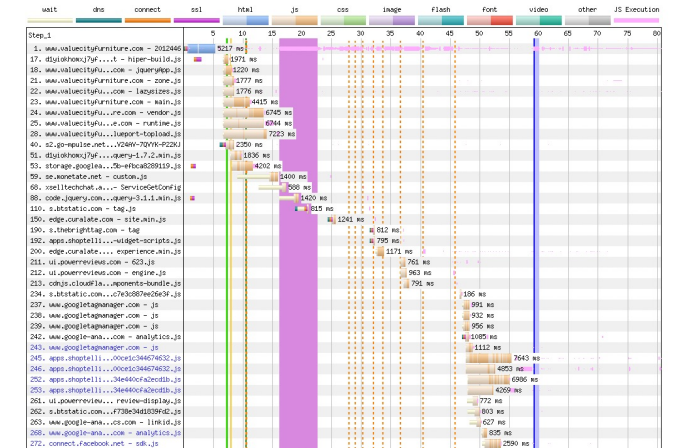
- Cumulative Layout Shift (CLS)

Largest Contentful Paint

- Marks the perceived load speed

- The point in the page load timeline when the page's main content is loaded

- LCP must be 2.5s or less to be considered good

(Loading)

LCP
Largest Contentful Paint

| GOOD | NEEDS IMPROVEMENT | POOR |

2.5 sec   4.0 sec
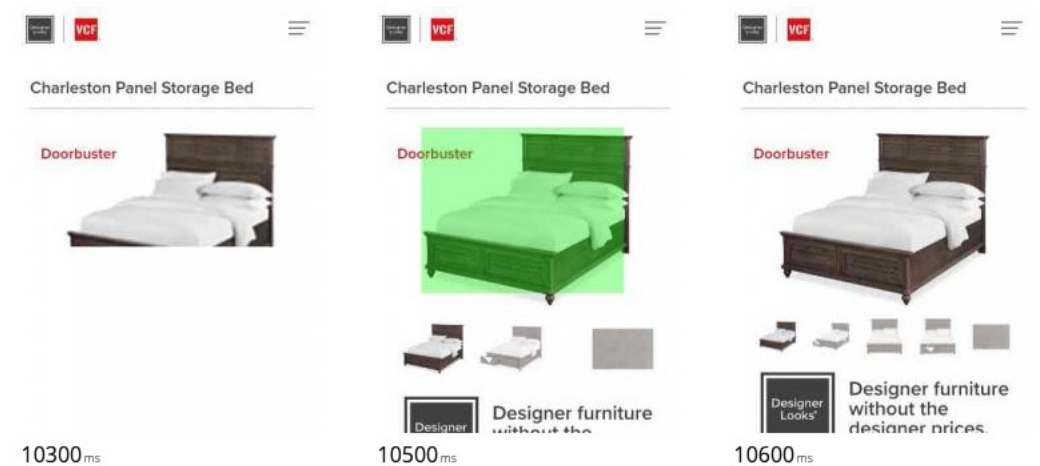
First Input Delay

- Measures the time from when a user first interacts with a page to when the page is responsive to user events

- Time until the site is usable

- Closely related to Total Blocking Time (TBT) which is a measure of how much time a browser is blocked by scripts – developers focus on improving TBT since FID is hard to measure in tests
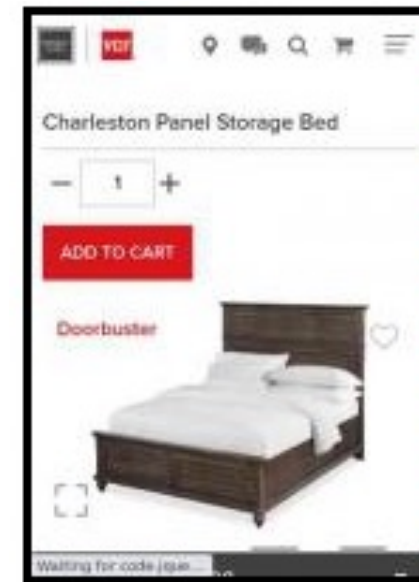
(Interactivity)

FID
First Input Delay

Cumulative Layout Shift

- Measures visual stability

- Quantifies how much users experience unexpected layout shifts

- Want to make sure the user has a pleasant and

predictable experience on the page

(Visual Stability)

CLS
Cumulative Layout Shift

GOOD | NEEDS IMPROVEMENT | POOR

0.1   0.25

50%   82%

Importance

User experience

- Best way we can measure the performance of our sites

- Gives us quantitative metrics of experience

- Users will leave a site that loads slowly or does not behave as they expect

- Improving performance increases retention rates

Clients

- Clients regularly look at core web vitals to understand the experience we provide to users

- Want metrics that accurately demonstrate a positive user experience

- Demonstrate our performance progress to clients through improvements in web vitals

- Optimizing for core web vitals improves Search Engine Optimization (SEO) ranking

Progress

Deferring email signup popup

- Email signup popup was the cause of LCP

- Prior to this ticket, LCP was around 93s for ASI

- Deferred the load of the lightbox until a customer first interacts with the page

- Dropped ASI's LCP to around 10s

- Did similar work for STN
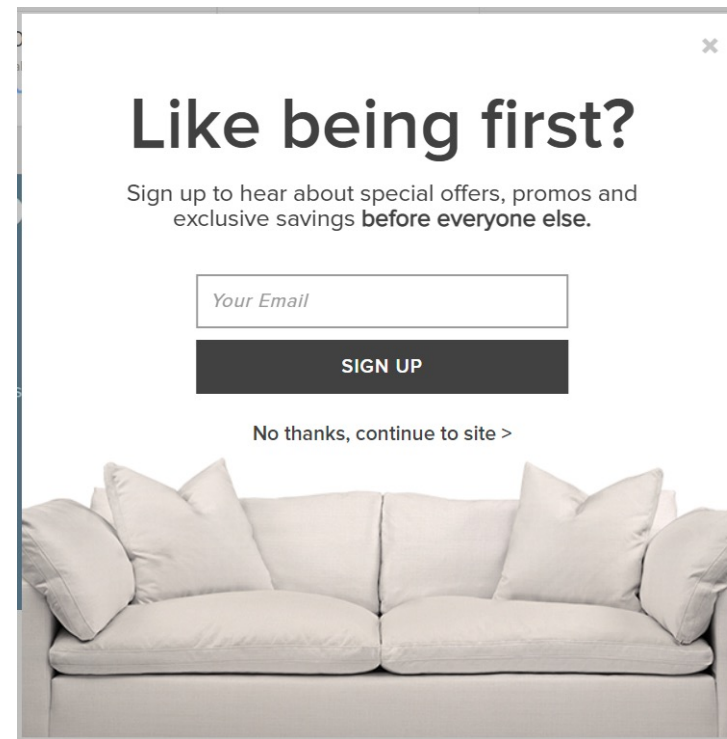
Code splitting

- Break up application into separate bundles so they can load simultaneously

- Broke app.js into zone.js, runtime.js, main.js, and vendor.js

- Reduced TBT by an average of 52%
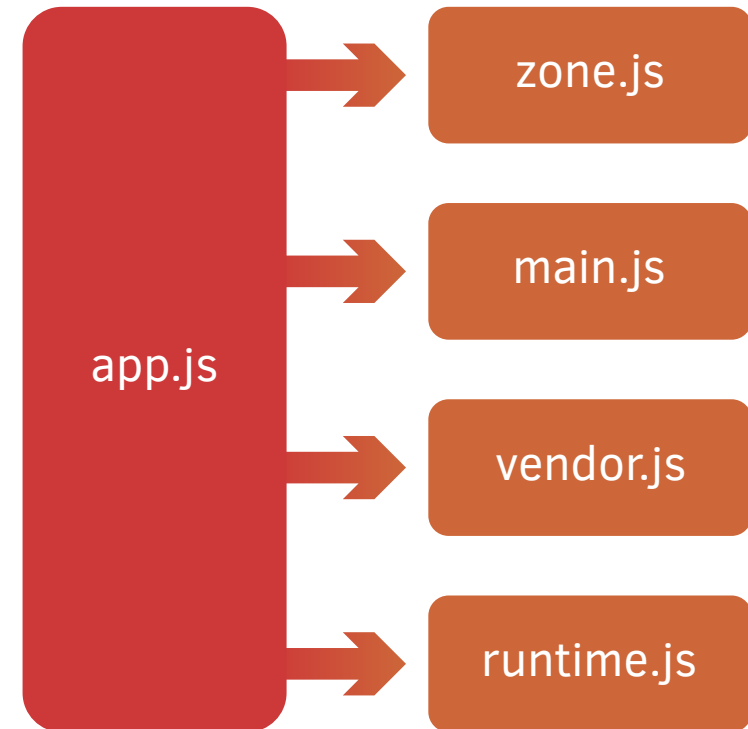
Lazy loading menu page elements

- Page elements are present in the menu and contain large images

- Deferred the loading of these page elements until a user opens the menu

- Did similar work with deferring the footer until a user scrolls (BLUE-36180)
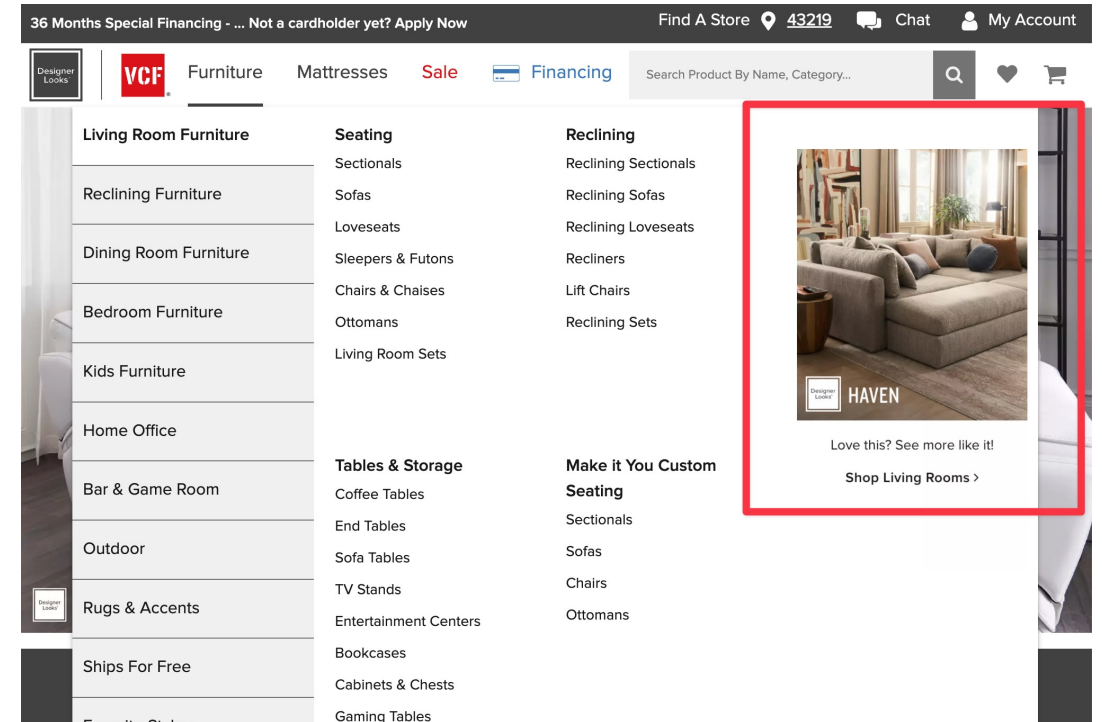
Deferring Shoptelligence

- Loads on the bottom of ASI's PDP

- Is the largest cause of TBT

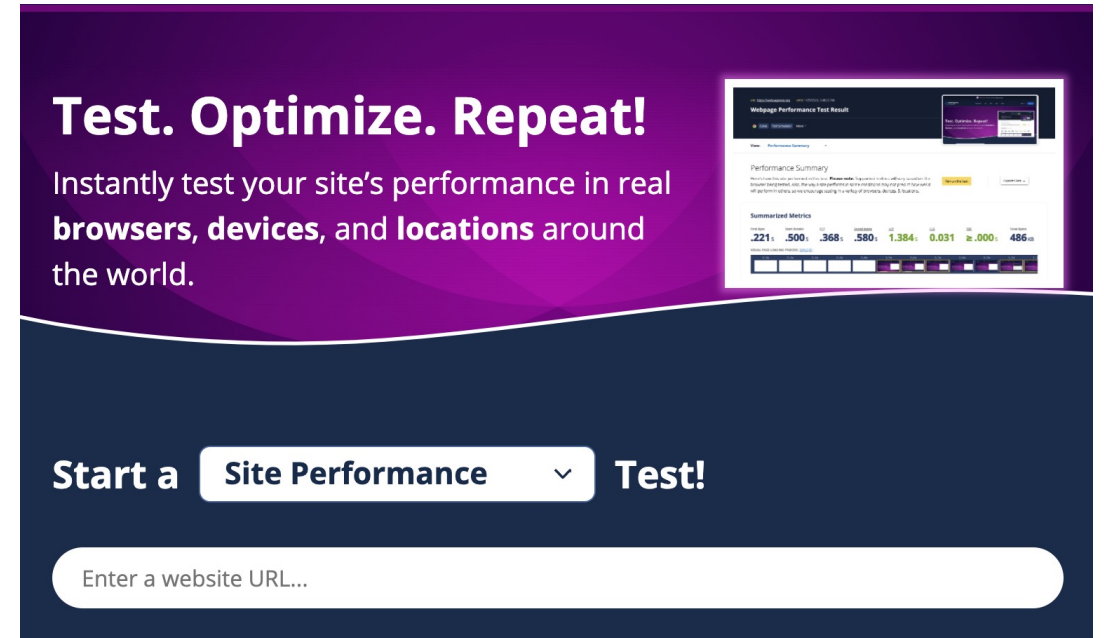- Deferred it until user scrolls which improved TBT
  by about 36%
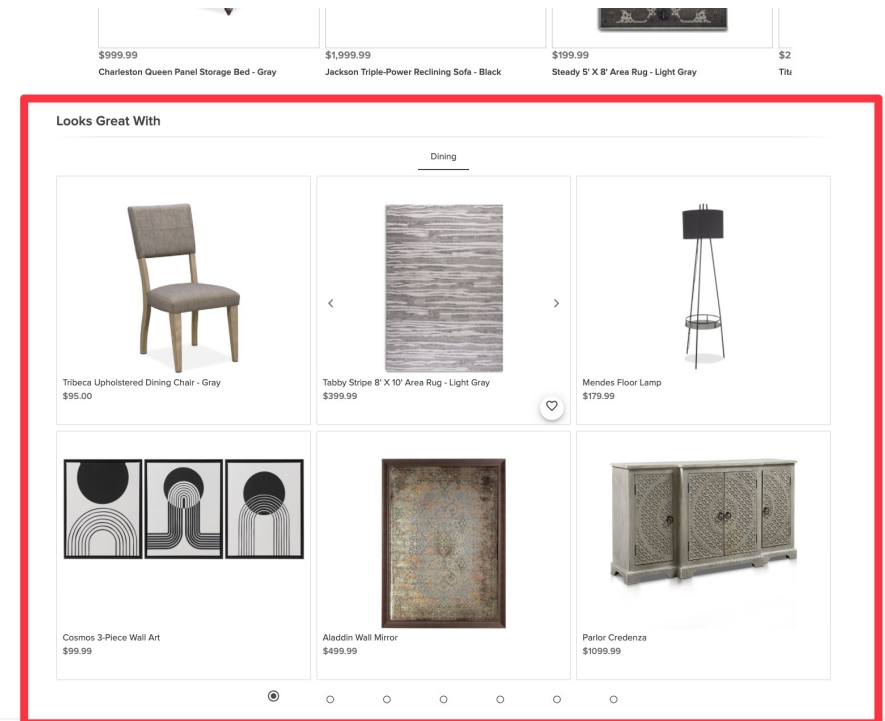
Testing

Running a performance test

- We use WebPageTest, an open-source web page performance testing tool recommended and used by Google

- Run and read tests manually on WebPageTest site but automated performance testing is coming soon

- For specific feature testing, run baseline test and then deploy and rerun test

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Questions?