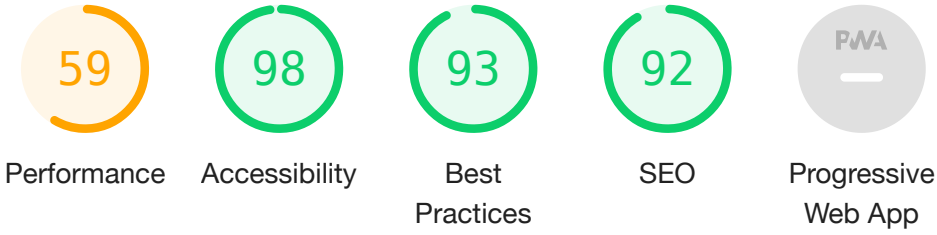
https://heyson.github.io/interactive-frontend-dev-milestone-project/



▲ 0–49 50–89 90–100

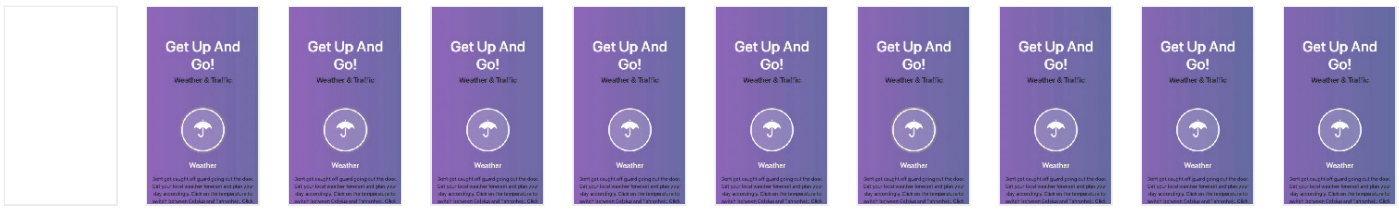
Performance

Metrics

	First Contentful Paint	2.4 s	Time to Interactive	7.3 s
▲	Speed Index	5.9 s	▲ Total Blocking Time	1,080 ms
	Largest Contentful Paint	2.6 s	Cumulative Layout Shift	0

Values are estimated and may vary. The performance score is calculated directly from these metrics. See calculator.

View Original Trace



Opportunities — These suggestions can help your page load faster. They don't directly affect the Performance score.

Opportunity	Estimated Savings
▲ Eliminate render-blocking resources	1.62 s

Resources are blocking the first paint of your page. Consider delivering critical JS/CSS inline and deferring all non-critical JS/styles. Learn more.

~~Show 3rd-party resources~~ (2)

URL	Transfer Size	Potential Savings

URL	Transfer Size	Potential Savings
…css/bootstrap.min.css (cdn.jsdelivr.net)	19.7 KiB	910 ms
…css/font-awesome.min.css (maxcdn.bootstrapcdn.com)	13.9 KiB	900 ms

Remove unused CSS 0.15 s

Remove dead rules from stylesheets and defer the loading of CSS not used for above-the-fold content to reduce unnecessary bytes consumed by network activity. Learn more.

Show 3rd-party resources (2)

URL	Transfer Size	Potential Savings
…css/bootstrap.min.css (cdn.jsdelivr.net)	19.7 KiB	19.4 KiB
…css/font-awesome.min.css (maxcdn.bootstrapcdn.com)	13.9 KiB	13.7 KiB

Remove unused JavaScript Error!

Remove unused JavaScript to reduce bytes consumed by network activity. Learn more.

Remove duplicate modules in JavaScript bundles Error!

Remove large, duplicate JavaScript modules from bundles to reduce unnecessary bytes consumed by network activity.

Avoid serving legacy JavaScript to modern browsers Error!

Polyfills and transforms enable legacy browsers to use new JavaScript features. However, many aren't necessary for modern browsers. For your bundled JavaScript, adopt a modern script deployment strategy using module/nomodule feature detection to reduce the amount of code shipped to modern browsers, while retaining support for legacy browsers. Learn More

Diagnostics — More information about the performance of your application. These numbers don't directly affect the Performance score.

Ensure text remains visible during webfont load

Leverage the font-display CSS feature to ensure text is user-visible while webfonts are loading. Learn more.

Show 3rd-party resources (3)

URL	Potential Savings
…fonts/fontawesome-webfont.woff2?v=4.7.0 (maxcdn.bootstrapcdn.com)	40 ms
…v20/KFOmCnqEu….woff2 (fonts.gstatic.com)	20 ms
…v20/KFOlCnqEu….woff2 (fonts.gstatic.com)	30 ms

Reduce the impact of third-party code — Third-party code blocked the main thread for 1,210 ms

Third-party code can significantly impact load performance. Limit the number of redundant third-party providers and try to load third-party code after your page has primarily finished loading. Learn more.

☐ ~~Show 3rd-party resources~~ (0)

Third-Party	Transfer Size	Main-Thread Blocking Time
Google Maps	544 KiB	1,207 ms
…5/controls.js (maps.googleapis.com)	57 KiB	710 ms
…js/ViewportI….GetViewportInfo?… (maps.googleapis.com)	2 KiB	201 ms
…5/map.js (maps.googleapis.com)	39 KiB	166 ms
…5/layers.js (maps.googleapis.com)	1 KiB	73 ms
…5/onion.js (maps.googleapis.com)	18 KiB	27 ms
`Other resources`	427 KiB	30 ms
Bootstrap CDN	118 KiB	0 ms
…fonts/fontawesome-webfont.woff2?v=4.7.0 (maxcdn.bootstrapcdn.com)	104 KiB	0 ms
…css/font-awesome.min.css (maxcdn.bootstrapcdn.com)	14 KiB	0 ms
JSDelivr CDN	53 KiB	0 ms
…js/bootstrap.bundle.min.js (cdn.jsdelivr.net)	33 KiB	0 ms
…css/bootstrap.min.css (cdn.jsdelivr.net)	20 KiB	0 ms
Google Fonts	24 KiB	0 ms
…v20/KFOmCnqEu….woff2 (fonts.gstatic.com)	11 KiB	0 ms
…v20/KFOlCnqEu….woff2 (fonts.gstatic.com)	11 KiB	0 ms
Polyfill service	0 KiB	0 ms

▲ Does not use passive listeners to improve scrolling performance

Consider marking your touch and wheel event listeners as `passive` to improve your page's scroll performance. Learn more.

☑ ~~Show 3rd-party resources~~ (4)

URL	Location
…api/js?key=AIzaSyD_9…&libraries=places&callback=initMap (maps.googleapis.com)	line: 247
…api/js?key=… (maps.googleapis.com)	line: 247
…api/js?key=AIzaSyD_9…&callback=initMap (maps.googleapis.com)	line: 239
…5/util.js (maps.googleapis.com)	line: 40

▲ Image elements do not have explicit `width` and `height`

Set an explicit width and height on image elements to reduce layout shifts and improve CLS. Learn more

☐ ~~Show 3rd-party resources~~ (0)

URL	Failing Elements
…icons/unknown.png (heyson.github.io)	img

Minimize main-thread work — 5.3 s

Consider reducing the time spent parsing, compiling and executing JS. You may find delivering smaller JS payloads helps with this. Learn more

Category	Time Spent
Script Evaluation	1,965 ms
Other	1,777 ms
Rendering	611 ms
Style & Layout	421 ms
Script Parsing & Compilation	404 ms
Parse HTML & CSS	53 ms
Garbage Collection	22 ms

Serve static assets with an efficient cache policy — 14 resources found

A long cache lifetime can speed up repeat visits to your page. Learn more.

Show 3rd-party resources (9)

URL	Cache TTL	Transfer Size
/maps/vt?pb=… (maps.googleapis.com)	1 m	6 KiB
/maps/vt?pb=… (maps.googleapis.com)	1 m	5 KiB
/maps/vt?pb=… (maps.googleapis.com)	1 m	3 KiB
/maps/vt?pb=… (maps.googleapis.com)	1 m	0 KiB
…icons/unknown.png (heyson.github.io)	10 m	3 KiB
…scripts/app.js (heyson.github.io)	10 m	2 KiB
…css/style.css (heyson.github.io)	10 m	2 KiB
…scripts/maps.js (heyson.github.io)	10 m	2 KiB
…font/Rimouski.css (heyson.github.io)	10 m	1 KiB
…api/js?key=… (maps.googleapis.com)	30 m	84 KiB
…api/js?key=AIzaSyD_9…&callback=initMap (maps.googleapis.com)	30 m	79 KiB
…api/js?key=AIzaSyD_9…&libraries=places&callback=initMap (maps.googleapis.com)	30 m	56 KiB
…js/StaticMapService.GetMapImage?… (maps.googleapis.com)	1 d	0 KiB
/v3/polyfill.min.js?features=default (polyfill.io)	7 d	0 KiB

Reduce JavaScript execution time — 2.3 s

Consider reducing the time spent parsing, compiling, and executing JS. You may find delivering smaller JS payloads helps with this. Learn more.

Show 3rd-party resources (10)

URL	Total CPU Time	Script Evaluation	Script Parse
…5/controls.js (maps.googleapis.com)	1,247 ms	614 ms	8 ms
/interactive-frontend-dev-milestone-project/ (heyson.github.io)	916 ms	11 ms	2 ms
Unattributable	720 ms	7 ms	2 ms
…5/map.js (maps.googleapis.com)	671 ms	435 ms	44 ms
…js/ViewportI….GetViewportInfo?… (maps.googleapis.com)	360 ms	139 ms	5 ms
…api/js?key=AIzaSyD_9… &libraries=places&callback=initMap (maps.googleapis.com)	226 ms	213 ms	11 ms
…api/js?key=AIzaSyD_9…&callback=initMap (maps.googleapis.com)	218 ms	143 ms	30 ms
…5/util.js (maps.googleapis.com)	182 ms	39 ms	109 ms
…api/js?key=… (maps.googleapis.com)	165 ms	154 ms	8 ms
…5/layers.js (maps.googleapis.com)	135 ms	2 ms	127 ms
…5/common.js (maps.googleapis.com)	123 ms	69 ms	26 ms
…5/onion.js (maps.googleapis.com)	97 ms	82 ms	13 ms

Avoid chaining critical requests — 9 chains found

The Critical Request Chains below show you what resources are loaded with a high priority. Consider reducing the length of chains, reducing the download size of resources, or deferring the download of unnecessary resources to improve page load. Learn more.

Maximum critical path latency: **1,450 ms**

Initial Navigation

- /interactive-frontend-dev-milestone-project/ (heyson.github.io)
  - …font/Rimouski.css (heyson.github.io) **- 30 ms, 0.68 KiB**
  - …css/bootstrap.min.css (cdn.jsdelivr.net) **- 30 ms, 19.7 KiB**
  - …css/font-awesome.min.css (maxcdn.bootstrapcdn.com)
    - …fonts/fontawesome-webfont.woff2?v=4.7.0 (maxcdn.bootstrapcdn.com) **- 40 ms, 104 KiB**
  - …css/style.css (heyson.github.io) **- 30 ms, 1.88 KiB**
  - /v3/polyfill.min.js?features=default (polyfill.io) **- 10 ms, 0.25 KiB**
  - …scripts/app.js (heyson.github.io) **- 30 ms, 2.35 KiB**
  - …js/bootstrap.bundle.min.js (cdn.jsdelivr.net) **- 80 ms, 33.43 KiB**
  - …markerclusterer/markerclusterer.js (developers.google.com) **- 1,310 ms, 9.18 KiB**
  - …scripts/maps.js (heyson.github.io) **- 30 ms, 1.66 KiB**

Keep request counts low and transfer sizes small — 39 requests • 759 KiB

To set budgets for the quantity and size of page resources, add a budget.json file. Learn more.

Resource Type	Requests	Transfer Size
Total	39	759 KiB
Script	20	573.1 KiB
Font	3	126 KiB
Stylesheet	5	37.6 KiB
Image	9	20.3 KiB
Document	1	2 KiB
Other	1	0 KiB
Media	0	0 KiB
Third-party	33	747.9 KiB

Largest Contentful Paint element — 1 element found

This is the largest contentful element painted within the viewport. Learn More

Element
p

Avoid large layout shifts — 1 element found

These DOM elements contribute most to the CLS of the page.

Element	CLS Contribution
i.fa.fa-umbrella	0

Avoid long main-thread tasks — 12 long tasks found

Lists the longest tasks on the main thread, useful for identifying worst contributors to input delay. Learn more

☑ Show 3rd-party resources (10)

URL	Start Time	Duration
…5/controls.js (maps.googleapis.com)	7,350 ms	347 ms
…js/ViewportI….GetViewportInfo?… (maps.googleapis.com)	6,592 ms	331 ms
…5/controls.js (maps.googleapis.com)	7,097 ms	209 ms
…markerclusterer/markerclusterer.js (developers.google.com)	4,397 ms	181 ms
…5/map.js (maps.googleapis.com)	5,897 ms	145 ms

URL	Start Time	Duration
…5/layers.js (maps.googleapis.com)	6,042 ms	125 ms
…5/util.js (maps.googleapis.com)	5,597 ms	111 ms
…api/js?key=AIzaSyD_9…&callback=initMap (maps.googleapis.com)	3,797 ms	99 ms
…5/onion.js (maps.googleapis.com)	6,497 ms	95 ms
…5/map.js (maps.googleapis.com)	6,167 ms	91 ms
Unattributable	864 ms	87 ms
Unattributable	803 ms	61 ms

Avoid non-composited animations — 3 animated elements found

Animations which are not composited can be janky and increase CLS. Learn more

Element	Name
body	
Unsupported CSS Properties: background-position-x, background-position-y	AnimationName
div.icon-border.pulsate	
Unsupported CSS Property: box-shadow	pulsate
div.icon-border.pulsate	
Unsupported CSS Property: box-shadow	pulsate

Passed audits (17)

Properly size images

Serve images that are appropriately-sized to save cellular data and improve load time. Learn more.

Defer offscreen images

Consider lazy-loading offscreen and hidden images after all critical resources have finished loading to lower time to interactive. Learn more.

Minify CSS

Minifying CSS files can reduce network payload sizes. Learn more.

Minify JavaScript

Minifying JavaScript files can reduce payload sizes and script parse time. Learn more.

Efficiently encode images

Optimized images load faster and consume less cellular data. Learn more.

Serve images in next-gen formats

Image formats like JPEG 2000, JPEG XR, and WebP often provide better compression than PNG or JPEG, which means faster downloads and less data consumption. Learn more.

Enable text compression

Text-based resources should be served with compression (gzip, deflate or brotli) to minimize total network bytes. Learn more.

Preconnect to required origins

Consider adding `preconnect` or `dns-prefetch` resource hints to establish early connections to important third-party origins. Learn more.

Initial server response time was short — Root document took 30 ms

Keep the server response time for the main document short because all other requests depend on it. Learn more.

☐ ~~Show 3rd-party resources~~ (0)

URL	Time Spent
/interactive-frontend-dev-milestone-project/ (heyson.github.io)	30 ms

Avoid multiple page redirects

Redirects introduce additional delays before the page can be loaded. Learn more.

Preload key requests

Consider using `<link rel=preload>` to prioritize fetching resources that are currently requested later in page load. Learn more.

Use HTTP/2

HTTP/2 offers many benefits over HTTP/1.1, including binary headers, multiplexing, and server push. Learn more.

Use video formats for animated content

Large GIFs are inefficient for delivering animated content. Consider using MPEG4/WebM videos for animations and PNG/WebP for static images instead of GIF to save network bytes. Learn more

Avoids enormous network payloads — Total size was 759 KiB

Large network payloads cost users real money and are highly correlated with long load times. Learn more.

☑ ~~Show 3rd-party resources~~ (10)

URL	Transfer Size
…5/util.js (maps.googleapis.com)	107.6 KiB
…fonts/fontawesome-webfont.woff2?v=4.7.0 (maxcdn.bootstrapcdn.com)	104 KiB
…api/js?key=… (maps.googleapis.com)	84 KiB
…api/js?key=AIzaSyD_9…&callback=initMap (maps.googleapis.com)	79.4 KiB
…5/controls.js (maps.googleapis.com)	56.7 KiB

URL	Transfer Size
…5/common.js (maps.googleapis.com)	55.9 KiB
…api/js?key=AIzaSyD_9…&libraries=places&callback=initMap (maps.googleapis.com)	55.7 KiB
…5/map.js (maps.googleapis.com)	38.6 KiB
…js/bootstrap.bundle.min.js (cdn.jsdelivr.net)	33.4 KiB
…5/marker.js (maps.googleapis.com)	24.1 KiB

Avoids an excessive DOM size — 185 elements

A large DOM will increase memory usage, cause longer style calculations, and produce costly layout reflows. Learn more.

Statistic	Element	Value
Total DOM Elements		185
Maximum DOM Depth	`<div>`	15
Maximum Child Elements	`<div class="gm-style">`	17

User Timing marks and measures

Consider instrumenting your app with the User Timing API to measure your app's real-world performance during key user experiences. Learn more.

Avoids `document.write()`

For users on slow connections, external scripts dynamically injected via `document.write()` can delay page load by tens of seconds. Learn more.

Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.

Names and labels — These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for users of assistive technology, like a screen reader.

▲ **Links do not have a discernible name**

Link text (and alternate text for images, when used as links) that is discernible, unique, and focusable improves the navigation experience for screen reader users. Learn more.

Failing Elements

a

a

Additional items to manually check (10) — These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

The page has a logical tab order

Tabbing through the page follows the visual layout. Users cannot focus elements that are offscreen. Learn more.

Interactive controls are keyboard focusable

Custom interactive controls are keyboard focusable and display a focus indicator. Learn more.

Interactive elements indicate their purpose and state

Interactive elements, such as links and buttons, should indicate their state and be distinguishable from non-interactive elements. Learn more.

The user's focus is directed to new content added to the page

If new content, such as a dialog, is added to the page, the user's focus is directed to it. Learn more.

User focus is not accidentally trapped in a region

A user can tab into and out of any control or region without accidentally trapping their focus. Learn more.

Custom controls have associated labels

Custom interactive controls have associated labels, provided by aria-label or aria-labelledby. Learn more.

Custom controls have ARIA roles

Custom interactive controls have appropriate ARIA roles. Learn more.

Visual order on the page follows DOM order

DOM order matches the visual order, improving navigation for assistive technology. Learn more.

Offscreen content is hidden from assistive technology

Offscreen content is hidden with display: none or aria-hidden=true. Learn more.

HTML5 landmark elements are used to improve navigation

Landmark elements (<main>, <nav>, etc.) are used to improve the keyboard navigation of the page for assistive technology. Learn more.

Passed audits (20)

`[aria-*]` attributes match their roles

Each ARIA `role` supports a specific subset of `aria-*` attributes. Mismatching these invalidates the `aria-*` attributes. Learn more.

`[aria-hidden="true"]` is not present on the document `<body>`

Assistive technologies, like screen readers, work inconsistently when `aria-hidden="true"` is set on the document `<body>`. Learn more.

`[aria-hidden="true"]` elements do not contain focusable descendents

Focusable descendents within an `[aria-hidden="true"]` element prevent those interactive elements from being available to users of assistive technologies like screen readers. Learn more.

`[role]`s have all required `[aria-*]` attributes

Some ARIA roles have required attributes that describe the state of the element to screen readers. Learn more.

Elements with an ARIA `[role]` that require children to contain a specific `[role]` have all required children.

Some ARIA parent roles must contain specific child roles to perform their intended accessibility functions. Learn more.

`[role]`s are contained by their required parent element

Some ARIA child roles must be contained by specific parent roles to properly perform their intended accessibility functions. Learn more.

`[role]` values are valid

ARIA roles must have valid values in order to perform their intended accessibility functions. Learn more.

`[aria-*]` attributes have valid values

Assistive technologies, like screen readers, can't interpret ARIA attributes with invalid values. Learn more.

`[aria-*]` attributes are valid and not misspelled

Assistive technologies, like screen readers, can't interpret ARIA attributes with invalid names. Learn more.

Buttons have an accessible name

When a button doesn't have an accessible name, screen readers announce it as "button", making it unusable for users who rely on screen readers. Learn more.

The page contains a heading, skip link, or landmark region

Adding ways to bypass repetitive content lets keyboard users navigate the page more efficiently. Learn more.

Background and foreground colors have a sufficient contrast ratio

Low-contrast text is difficult or impossible for many users to read. Learn more.

Document has a `<title>` element

The title gives screen reader users an overview of the page, and search engine users rely on it heavily to determine if a page is relevant to their search. Learn more.

ARIA IDs are unique

The value of an ARIA ID must be unique to prevent other instances from being overlooked by assistive technologies. Learn more.

Heading elements appear in a sequentially-descending order

Properly ordered headings that do not skip levels convey the semantic structure of the page, making it easier to navigate and understand when using assistive technologies. Learn more.

`<html>` element has a `[lang]` attribute

If a page doesn't specify a lang attribute, a screen reader assumes that the page is in the default language that the user chose when setting up the screen reader. If the page isn't actually in the default language, then the screen reader might not announce the page's text correctly. Learn more.

`<html>` element has a valid value for its `[lang]` attribute

Specifying a valid BCP 47 language helps screen readers announce text properly. Learn more.

Image elements have `[alt]` attributes

Informative elements should aim for short, descriptive alternate text. Decorative elements can be ignored with an empty alt attribute. Learn more.

`[user-scalable="no"]` is not used in the `<meta name="viewport">` element and the `[maximum-scale]` attribute is not less than 5.

Disabling zooming is problematic for users with low vision who rely on screen magnification to properly see the contents of a web page. Learn more.

No element has a `[tabindex]` value greater than 0

A value greater than 0 implies an explicit navigation ordering. Although technically valid, this often creates frustrating experiences for users who rely on assistive technologies. Learn more.

Not applicable (20)

`[accesskey]` values are unique

Access keys let users quickly focus a part of the page. For proper navigation, each access key must be unique. Learn more.

ARIA input fields have accessible names

When an input field doesn't have an accessible name, screen readers announce it with a generic name, making it unusable for users who rely on screen readers. Learn more.

ARIA toggle fields have accessible names

When a toggle field doesn't have an accessible name, screen readers announce it with a generic name, making it unusable for users who rely on screen readers. Learn more.

`<dl>`'s contain only properly-ordered `<dt>` and `<dd>` groups, `<script>`, `<template>` or `<div>` elements.

When definition lists are not properly marked up, screen readers may produce confusing or inaccurate output. Learn more.

Definition list items are wrapped in `<dl>` elements

Definition list items (`<dt>` and `<dd>`) must be wrapped in a parent `<dl>` element to ensure that screen readers can properly announce them. Learn more.

`[id]` attributes on active, focusable elements are unique

All focusable elements must have a unique `id` to ensure that they're visible to assistive technologies. Learn more.

No form fields have multiple labels

Form fields with multiple labels can be confusingly announced by assistive technologies like screen readers which use either the first, the last, or all of the labels. Learn more.

`<frame>` or `<iframe>` elements have a title

Screen reader users rely on frame titles to describe the contents of frames. Learn more.

`<input type="image">` elements have `[alt]` text

When an image is being used as an `<input>` button, providing alternative text can help screen reader users understand the purpose of the button. Learn more.

Form elements have associated labels

Labels ensure that form controls are announced properly by assistive technologies, like screen readers. Learn more.

Presentational `<table>` elements avoid using `<th>`, `<caption>` or the `[summary]` attribute.

A table being used for layout purposes should not include data elements, such as the th or caption elements or the summary attribute, because this can create a confusing experience for screen reader users. Learn more.

Lists contain only `<li>` elements and script supporting elements (`<script>` and `<template>`).

Screen readers have a specific way of announcing lists. Ensuring proper list structure aids screen reader output. Learn more.

List items (`<li>`) are contained within `<ul>` or `<ol>` parent elements

Screen readers require list items (`<li>`) to be contained within a parent `<ul>` or `<ol>` to be announced properly. Learn more.

The document does not use `<meta http-equiv="refresh">`

Users do not expect a page to refresh automatically, and doing so will move focus back to the top of the page. This may create a frustrating or confusing experience. Learn more.

`<object>` elements have `[alt]` text

Screen readers cannot translate non-text content. Adding alt text to `<object>` elements helps screen readers convey meaning to users. Learn more.

Cells in a `<table>` element that use the `[headers]` attribute refer to table cells within the same table.

Screen readers have features to make navigating tables easier. Ensuring `<td>` cells using the `[headers]` attribute only refer to other cells in the same table may improve the experience for screen reader users. Learn more.

`<th>` elements and elements with `[role="columnheader"/"rowheader"]` have data cells they describe.

Screen readers have features to make navigating tables easier. Ensuring table headers always refer to some set of cells may improve the experience for screen reader users. Learn more.

`[lang]` attributes have a valid value

Specifying a valid BCP 47 language on elements helps ensure that text is pronounced correctly by a screen reader. Learn more.

`<video>` elements contain a `<track>` element with `[kind="captions"]`

When a video provides a caption it is easier for deaf and hearing impaired users to access its information. Learn more.

`<video>` elements contain a `<track>` element with `[kind="description"]`

Audio descriptions provide relevant information for videos that dialogue cannot, such as facial expressions and scenes. Learn more.

Best Practices

Trust and Safety

▲ Requests the geolocation permission on page load

Users are mistrustful of or confused by sites that request their location without context. Consider tying the request to a user action instead. Learn more.

☐ ~~Show 3rd-party resources~~ (0)

URL	Location
…scripts/app.js (heyson.github.io)	line: 22

Passed audits (15)

Uses HTTPS

All sites should be protected with HTTPS, even ones that don't handle sensitive data. This includes avoiding mixed content, where some resources are loaded over HTTP despite the initial request being served over HTTPS. HTTPS prevents intruders from tampering with or passively listening in on the communications between your app and your users, and is a prerequisite for HTTP/2 and many new web platform APIs. Learn more.

Links to cross-origin destinations are safe

Add `rel="noopener"` or `rel="noreferrer"` to any external links to improve performance and prevent security vulnerabilities. Learn more.

Avoids requesting the notification permission on page load

Users are mistrustful of or confused by sites that request to send notifications without context. Consider tying the request to user gestures instead. Learn more.

Avoids front-end JavaScript libraries with known security vulnerabilities

Some third-party scripts may contain known security vulnerabilities that are easily identified and exploited by attackers. Learn more.

Allows users to paste into password fields

Preventing password pasting undermines good security policy. Learn more.

Displays images with correct aspect ratio

Image display dimensions should match natural aspect ratio. Learn more.

Serves images with appropriate resolution

Image natural dimensions should be proportional to the display size and the pixel ratio to maximize image clarity. Learn more.

Page has the HTML doctype

Specifying a doctype prevents the browser from switching to quirks-mode. Learn more.

Properly defines charset

A character encoding declaration is required. It can be done with a `<meta>` tag in the first 1024 bytes of the HTML or in the Content-Type HTTP response header. Learn more.

Avoids `unload` event listeners

The `unload` event does not fire reliably and listening for it can prevent browser optimizations like the Back-Forward Cache. Consider using the `pagehide` or `visibilitychange` events instead. Learn More

Avoids Application Cache

Application Cache is deprecated. Learn more.

Detected JavaScript libraries

All front-end JavaScript libraries detected on the page. Learn more.

Name	Version
Google Maps	3.43.5

Avoids deprecated APIs

Deprecated APIs will eventually be removed from the browser. Learn more.

No browser errors logged to the console

Errors logged to the console indicate unresolved problems. They can come from network request failures and other browser concerns. Learn more

Page has valid source maps

Source maps translate minified code to the original source code. This helps developers debug in production. In addition, Lighthouse is able to provide further insights. Consider deploying source maps to take advantage of these benefits. Learn more.

~~Show 3rd-party resources~~ (1)

URL	Map URL
…js/bootstrap.bundle.min.js (cdn.jsdelivr.net)	…js/bootstrap.bundle.min.js.map (cdn.jsdelivr.net)

Not applicable (1)

Fonts with `font-display: optional` are preloaded

Preload `optional` fonts so first-time visitors may use them. Learn More

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SEO

These checks ensure that your page is optimized for search engine results ranking. There are additional factors Lighthouse does not check that may affect your search ranking. Learn more.

Content Best Practices — Format your HTML in a way that enables crawlers to better understand your app's content.

▲ **Document does not have a meta description**

Meta descriptions may be included in search results to concisely summarize page content. Learn more.

Additional items to manually check (1) — Run these additional validators on your site to check additional SEO best practices.

Structured data is valid

Run the Structured Data Testing Tool and the Structured Data Linter to validate structured data. Learn more.

Passed audits (11)

Has a `<meta name="viewport">` tag with `width` or `initial-scale`

Add a `<meta name="viewport">` tag to optimize your app for mobile screens. Learn more.

Document has a `<title>` element

The title gives screen reader users an overview of the page, and search engine users rely on it heavily to determine if a page is relevant to their search. Learn more.

Page has successful HTTP status code

Pages with unsuccessful HTTP status codes may not be indexed properly. Learn more.

Links have descriptive text

Descriptive link text helps search engines understand your content. Learn more.

Links are crawlable

Search engines may use `href` attributes on links to crawl websites. Ensure that the `href` attribute of anchor elements links to an appropriate destination, so more pages of the site can be discovered. Learn More

Page isn't blocked from indexing

Search engines are unable to include your pages in search results if they don't have permission to crawl them. Learn more.

Image elements have `[alt]` attributes

Informative elements should aim for short, descriptive alternate text. Decorative elements can be ignored with an empty alt attribute. Learn more.

Document has a valid `hreflang`

hreflang links tell search engines what version of a page they should list in search results for a given language or region. Learn more.

Document uses legible font sizes — 98.76% legible text

Font sizes less than 12px are too small to be legible and require mobile visitors to "pinch to zoom" in order to read. Strive to have >60% of page text ≥12px. Learn more.

☑ Show 3rd-party resources (1)

Source	Selector	% of Page Text	Font Size
`dynamic`	`.gm-style .gm-style-cc span, .gm-style .gm-style-cc a, .gm-style .gm-style-mtc div`	0.66%	10px
bootstrap.min.css:6	`button, input, optgroup, select, textarea`	0.58%	11px
`Legible text`		98.76%	≥ 12px

Document avoids plugins

Search engines can't index plugin content, and many devices restrict plugins or don't support them. Learn more.

Tap targets are sized appropriately — 100% appropriately sized tap targets

Interactive elements like buttons and links should be large enough (48x48px), and have enough space around them, to be easy enough to tap without overlapping onto other elements. Learn more.

Not applicable (2)

robots.txt is valid

If your robots.txt file is malformed, crawlers may not be able to understand how you want your website to be crawled or indexed. Learn more.

Document has a valid `rel=canonical`

Canonical links suggest which URL to show in search results. Learn more.

Progressive Web App

These checks validate the aspects of a Progressive Web App. Learn more.

Fast and reliable

Page load is fast enough on mobile networks

A fast page load over a cellular network ensures a good mobile user experience. Learn more.

▲ **Current page does not respond with a 200 when offline**

If you're building a Progressive Web App, consider using a service worker so that your app can work offline. Learn more.

▲ **`start_url` does not respond with a 200 when offline** No usable web app manifest found on page.

A service worker enables your web app to be reliable in unpredictable network conditions. Learn more.

Installable

Uses HTTPS

All sites should be protected with HTTPS, even ones that don't handle sensitive data. This includes avoiding mixed content, where some resources are loaded over HTTP despite the initial request being served over HTTPS. HTTPS prevents intruders from tampering with or passively listening in on the communications between your app and your users, and is a prerequisite for HTTP/2 and many new web platform APIs. Learn more.

▲ **Does not register a service worker that controls page and `start_url`**

The service worker is the technology that enables your app to use many Progressive Web App features, such as offline, add to homescreen, and push notifications. Learn more.

▲ **Web app manifest does not meet the installability requirements** Failures: No manifest was fetched.

Browsers can proactively prompt users to add your app to their homescreen, which can lead to higher engagement. Learn more.

PWA Optimized

Redirects HTTP traffic to HTTPS

If you've already set up HTTPS, make sure that you redirect all HTTP traffic to HTTPS in order to enable secure web features for all your users. Learn more.

▲ **Is not configured for a custom splash screen** Failures: No manifest was fetched.

A themed splash screen ensures a high-quality experience when users launch your app from their homescreens. Learn more.

▲ **Does not set a theme color for the address bar.**
Failures: No manifest was fetched, No `<meta name="theme-color">` tag found.

The browser address bar can be themed to match your site. Learn more.

Content is sized correctly for the viewport

If the width of your app's content doesn't match the width of the viewport, your app might not be optimized for mobile screens. Learn more.

Has a `<meta name="viewport">` tag with `width` or `initial-scale`

Add a `<meta name="viewport">` tag to optimize your app for mobile screens. Learn more.

Contains some content when JavaScript is not available

Your app should display some content when JavaScript is disabled, even if it's just a warning to the user that JavaScript is required to use the app. Learn more.

▲ **Does not provide a valid `apple-touch-icon`**

For ideal appearance on iOS when users add a progressive web app to the home screen, define an `apple-touch-icon`. It must point to a non-transparent 192px (or 180px) square PNG. Learn More.

▲ **Manifest doesn't have a maskable icon** No manifest was fetched

A maskable icon ensures that the image fills the entire shape without being letterboxed when installing the app on a device. Learn more.

Additional items to manually check (3) — These checks are required by the baseline PWA Checklist but are not automatically checked by Lighthouse. They do not affect your score but it's important that you verify them manually.

Site works cross-browser

To reach the most number of users, sites should work across every major browser. Learn more.

Page transitions don't feel like they block on the network

Transitions should feel snappy as you tap around, even on a slow network. This experience is key to a user's perception of performance. Learn more.

Each page has a URL

Ensure individual pages are deep linkable via URL and that URLs are unique for the purpose of shareability on social media. Learn more.

Runtime Settings

URL	https://heyson.github.io/interactive-frontend-dev-milestone-project/
Fetch Time	Jan 15, 2021, 7:05 AM EST
Device	Emulated Moto G4
Network throttling	150 ms TCP RTT, 1,638.4 Kbps throughput (Simulated)
CPU throttling	4x slowdown (Simulated)
Channel	devtools
User agent (host)	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_14_6) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/87.0.4280.88 Safari/537.36
User agent (network)	Mozilla/5.0 (Linux; Android 7.0; Moto G (4)) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/84.0.4143.7 Mobile Safari/537.36 Chrome-Lighthouse
CPU/Memory Power	1434
Axe version	3.5.5

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