http://cse110.bobobobobobo.net/user/Liam

91	95	86	90	PWA
Performance	Accessibility	Best Practices	SEO	Progressive Web App

▲ 0–49   50–89   90–100

91

Performance

Metrics ☰

First Contentful Paint	0.4 s	Time to Interactive	0.6 s
Speed Index	0.5 s	Total Blocking Time	0 ms
Largest Contentful Paint	1.6 s	▲ Cumulative Layout Shift	0.31

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

View Original Trace

	00:00	00:00	00:00	00:00	00:00	00:00

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

Opportunity	Estimated Savings
Preload key requests	0.27 s ⌃

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

☐ Show 3rd-party resources (0)

URL	Potential Savings
/js-trans/utils.js (cse110.bobobobobobo.net)	270 ms
…components/settings.js (cse110.bobobobobobo.net)	270 ms

URL	Potential Savings
…components/timer-display.js (cse110.bobobobobobo.net)	270 ms
/css/timer-display.css (cse110.bobobobobobo.net)	250 ms
…components/control-button.js (cse110.bobobobobobo.net)	240 ms
…components/task-list.js (cse110.bobobobobobo.net)	230 ms
…persistence/data.js (cse110.bobobobobobo.net)	210 ms
/css/task-list.css (cse110.bobobobobobo.net)	200 ms
/css/settings.css (cse110.bobobobobobo.net)	200 ms
/css/control-button.css (cse110.bobobobobobo.net)	180 ms
/css/modal.css (cse110.bobobobobobo.net)	170 ms
/css/task-item.css (cse110.bobobobobobo.net)	160 ms
…state_machines/timer_state_machine.js (cse110.bobobobobobo.net)	140 ms
…components/modal.js (cse110.bobobobobobo.net)	130 ms

Enable text compression   0.24 s ⌃

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

☐ ~~Show 3rd-party resources~~ (0)

URL	Transfer Size	Potential Savings
…components/task.js (cse110.bobobobobobo.net)	165.7 KiB	150.8 KiB
/js-trans/timer.js (cse110.bobobobobobo.net)	134.7 KiB	120.5 KiB
…components/settings.js (cse110.bobobobobobo.net)	124.2 KiB	111.8 KiB
…components/timer-display.js (cse110.bobobobobobo.net)	75.8 KiB	68.2 KiB
…components/task-list.js (cse110.bobobobobobo.net)	57.6 KiB	51.3 KiB
…components/modal.js (cse110.bobobobobobo.net)	55.4 KiB	49.7 KiB
/js-trans/utils.js (cse110.bobobobobobo.net)	15.6 KiB	12.8 KiB
…components/control-button.js (cse110.bobobobobobo.net)	12.1 KiB	9.8 KiB
/user/Liam (cse110.bobobobobobo.net)	6.4 KiB	5.4 KiB
/css/timer.css (cse110.bobobobobobo.net)	4.8 KiB	3.8 KiB

Use HTTP/2   0.22 s ⌃

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

☐ ~~Show 3rd-party resources~~ (0)

URL	Protocol
/user/Liam (cse110.bobobobobobo.net)	http/1.1
/css/timer.css (cse110.bobobobobobo.net)	http/1.1
/js-trans/timer.js (cse110.bobobobobobo.net)	http/1.1
…fonts/Exo2-SemiBold.ttf (cse110.bobobobobobo.net)	http/1.1
/js-trans/utils.js (cse110.bobobobobobo.net)	http/1.1
…components/settings.js (cse110.bobobobobobo.net)	http/1.1
…components/timer-display.js (cse110.bobobobobobo.net)	http/1.1
…components/control-button.js (cse110.bobobobobobo.net)	http/1.1
…components/modal.js (cse110.bobobobobobo.net)	http/1.1
…components/task-list.js (cse110.bobobobobobo.net)	http/1.1
…components/task.js (cse110.bobobobobobo.net)	http/1.1
…state_machines/state_machine.js (cse110.bobobobobobo.net)	http/1.1
…state_machines/timer_state_machine.js (cse110.bobobobobobo.net)	http/1.1
…persistence/data.js (cse110.bobobobobobo.net)	http/1.1
…components/settings.html (cse110.bobobobobobo.net)	http/1.1
…components/timer-display.html (cse110.bobobobobobo.net)	http/1.1
…components/control-button.html (cse110.bobobobobobo.net)	http/1.1
…components/modal.html (cse110.bobobobobobo.net)	http/1.1
…components/task.html (cse110.bobobobobobo.net)	http/1.1
…components/task-list.html (cse110.bobobobobobo.net)	http/1.1
/css/control-button.css (cse110.bobobobobobo.net)	http/1.1
/css/timer-display.css (cse110.bobobobobobo.net)	http/1.1
/css/task-list.css (cse110.bobobobobobo.net)	http/1.1
…images/add-task.png (cse110.bobobobobobo.net)	http/1.1
/fetchuserdata (cse110.bobobobobobo.net)	http/1.1
/css/settings.css (cse110.bobobobobobo.net)	http/1.1
/md/instructions.md (cse110.bobobobobobo.net)	http/1.1
…settings/light.png (cse110.bobobobobobo.net)	http/1.1
…settings/dark.png (cse110.bobobobobobo.net)	http/1.1
…settings/logo.jfif (cse110.bobobobobobo.net)	http/1.1
/css/modal.css (cse110.bobobobobobo.net)	http/1.1

URL	Protocol
/css/task-item.css (cse110.bobobobobobo.net)	http/1.1
/uploaduserdata (cse110.bobobobobobo.net)	http/1.1
…images/delete.png (cse110.bobobobobobo.net)	http/1.1
…images/edit.png (cse110.bobobobobobo.net)	http/1.1

Minify JavaScript 0.2 s ∧

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

☐ ~~Show 3rd-party resources~~ (0)

URL	Transfer Size	Potential Savings
…components/task.js (cse110.bobobobobobo.net)	89.1 KiB	63.3 KiB
…components/timer-display.js (cse110.bobobobobobo.net)	76.1 KiB	55 KiB
/js-trans/timer.js (cse110.bobobobobobo.net)	68.3 KiB	47.5 KiB
…components/settings.js (cse110.bobobobobobo.net)	63.1 KiB	45.9 KiB
…components/task-list.js (cse110.bobobobobobo.net)	41.5 KiB	29.4 KiB
…components/modal.js (cse110.bobobobobobo.net)	31 KiB	22.1 KiB
/js-trans/utils.js (cse110.bobobobobobo.net)	15.9 KiB	11.2 KiB
…components/control-button.js (cse110.bobobobobobo.net)	12.4 KiB	8.5 KiB

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~~ (0)

URL	Potential Savings
…fonts/Exo2-SemiBold.ttf (cse110.bobobobobobo.net)	290 ms

Avoid chaining critical requests — 13 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: **1,330 ms**

Initial Navigation

/user/Liam (cse110.bobobobobobo.net)

/css/timer.css (cse110.bobobobobobo.net)

…fonts/Exo2-SemiBold.ttf (cse110.bobobobobobo.net) **- 290 ms, 152.03 KiB**

…1.4.0/showdown.min.js (cdnjs.cloudflare.com) **- 40 ms, 7.63 KiB**

/js-trans/timer.js (cse110.bobobobobobo.net)

/js-trans/utils.js (cse110.bobobobobobo.net) **- 80 ms, 15.91 KiB**

…components/settings.js (cse110.bobobobobobo.net)

/css/settings.css (cse110.bobobobobobo.net) **- 100 ms, 0.24 KiB**

…components/timer-display.js (cse110.bobobobobobo.net)

/css/timer-display.css (cse110.bobobobobobo.net) **- 80 ms, 0.24 KiB**

…components/control-button.js (cse110.bobobobobobo.net)

/css/control-button.css (cse110.bobobobobobo.net) **- 80 ms, 0.24 KiB**

…components/modal.js (cse110.bobobobobobo.net)

/css/modal.css (cse110.bobobobobobo.net) **- 70 ms, 0.24 KiB**

…components/task-list.js (cse110.bobobobobobo.net)

/css/task-list.css (cse110.bobobobobobo.net) **- 80 ms, 0.24 KiB**

/css/task-item.css (cse110.bobobobobobo.net) **- 80 ms, 0.24 KiB**

…components/task.js (cse110.bobobobobobo.net) **- 250 ms, 89.1 KiB**

…state_machines/state_machine.js (cse110.bobobobobobo.net) **- 220 ms, 0.24 KiB**

…state_machines/timer_state_machine.js (cse110.bobobobobobo.net) **- 230 ms, 0.24 KiB**

…persistence/data.js (cse110.bobobobobobo.net) **- 290 ms, 0.24 KiB**

Keep request counts low and transfer sizes small — 36 requests • 571 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	36	570.7 KiB
Script	12	405.7 KiB
Font	1	152 KiB
Stylesheet	7	4.2 KiB
Other	9	3.9 KiB
Document	1	3.5 KiB
Image	6	1.4 KiB
Media	0	0 KiB
Third-party	1	7.6 KiB

Largest Contentful Paint element — 1 element found   ⌃

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

Element

p#timer-string

Avoid large layout shifts — 5 elements found ⌃

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

Element	CLS Contribution
div.container	0.153
div.control-buttons	0.046
div.top-bar-buttons	0.043
c-timer-display#timer-display	0.029
div#side-bar.side-bar	0.015

Avoid non-composited animations — 2 animated elements found ⌃

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

Element

button#add-task-button

 Unsupported CSS Property: border-bottom-color
 Unsupported CSS Property: border-bottom-left-radius
 Unsupported CSS Property: border-bottom-right-radius
 Unsupported CSS Property: border-bottom-width
 Unsupported CSS Property: padding-bottom
 Unsupported CSS Property: margin-bottom
 Unsupported CSS Property: margin-left
 Unsupported CSS Property: border-left-color
 Unsupported CSS Property: margin-top
 Unsupported CSS Property: border-left-width
 Unsupported CSS Property: border-right-color
 Unsupported CSS Property: border-right-width
 Unsupported CSS Property: border-top-color
 Unsupported CSS Property: border-top-left-radius
 Unsupported CSS Property: border-top-right-radius
 Unsupported CSS Property: border-top-width
 Unsupported CSS Property: background-color
 Unsupported CSS Property: margin-right

div#view.task-container

 Unsupported CSS Property: border-bottom-color

Element

Unsupported CSS Property: border-bottom-left-radius

Unsupported CSS Property: border-bottom-right-radius

Unsupported CSS Property: border-bottom-width

Unsupported CSS Property: padding-bottom

Unsupported CSS Property: padding-left

Unsupported CSS Property: padding-right

Unsupported CSS Property: padding-top

Unsupported CSS Property: margin-bottom

Unsupported CSS Property: margin-left

Unsupported CSS Property: border-left-color

Unsupported CSS Property: margin-top

Unsupported CSS Property: border-left-width

Unsupported CSS Property: border-right-color

Unsupported CSS Property: border-right-width

Unsupported CSS Property: border-top-color

Unsupported CSS Property: border-top-left-radius

Unsupported CSS Property: border-top-right-radius

Unsupported CSS Property: border-top-width

Unsupported CSS Property: margin-right

Passed audits (25)   ⌃

Eliminate render-blocking resources   — Potential savings of 0 ms   ⌃

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~~ (0)

URL	Transfer Size	Potential Savings
/css/timer.css (cse110.bobobobobobo.net)	2.7 KiB	70 ms

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.

Remove unused CSS   ⌃

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.

Remove unused JavaScript ^

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

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 80 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
/user/Liam (cse110.bobobobobobo.net)	80 ms

Avoid multiple page redirects ^

Redirects introduce additional delays before the page can be loaded. 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

Remove duplicate modules in JavaScript bundles ^

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

Avoid serving legacy JavaScript to modern browsers ^

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

Avoids enormous network payloads — Total size was 571 KiB ^

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

☑ Show 3rd-party resources (1)

URL	Transfer Size
…fonts/Exo2-SemiBold.ttf (cse110.bobobobobobo.net)	152 KiB
…components/task.js (cse110.bobobobobobo.net)	89.1 KiB
…components/timer-display.js (cse110.bobobobobobo.net)	76.1 KiB
/js-trans/timer.js (cse110.bobobobobobo.net)	68.3 KiB
…components/settings.js (cse110.bobobobobobo.net)	63.1 KiB
…components/task-list.js (cse110.bobobobobobo.net)	41.5 KiB
…components/modal.js (cse110.bobobobobobo.net)	31 KiB
/js-trans/utils.js (cse110.bobobobobobo.net)	15.9 KiB
…components/control-button.js (cse110.bobobobobobo.net)	12.4 KiB
…1.4.0/showdown.min.js (cdnjs.cloudflare.com)	7.6 KiB

Uses efficient cache policy on static assets — 0 resources found ∧

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

Avoids an excessive DOM size — 164 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		164
Maximum DOM Depth	`<input type="checkbox" id="allow-emergency-stop">`	12
Maximum Child Elements	`<p id="instructions">`	7

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.

JavaScript execution time — 0.1 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~~ (0)

URL	Total CPU Time	Script Evaluation	Script Parse
/user/Liam (cse110.bobobobobobo.net)	249 ms	9 ms	4 ms
Unattributable	142 ms	6 ms	0 ms
…components/settings.js (cse110.bobobobobobo.net)	67 ms	55 ms	1 ms

Minimizes main-thread work — 0.6 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
Other	240 ms
Script Evaluation	152 ms
Style & Layout	92 ms
Rendering	79 ms
Script Parsing & Compilation	19 ms
Parse HTML & CSS	12 ms

Minimize third-party usage — Third-party code blocked the main thread for 0 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
Cloudflare CDN	8 KiB	0 ms
…1.4.0/showdown.min.js (cdnjs.cloudflare.com)	8 KiB	0 ms

Uses 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.

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.

Avoid long main-thread tasks ⌃

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

Image elements have explicit `width` and `height` ⌃

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

95

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.

Tables and lists — These are opportunities to improve the experience of reading tabular or list data using assistive technology, like a screen reader.

⚠ Lists do not 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](#).

Failing Elements

ul#running.side-bar-division

ul#pending-add.side-bar-division

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 (12) ⌃

`[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.

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.

`[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.

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.

Links 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.

`[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.

Not applicable (28) ⌃

`[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-*]` 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"]` 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.

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.

`[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 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.

`[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](#).

`<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](#).

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](#).

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](#).

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](#).

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.

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.

86

Best Practices

Trust and Safety

⚠ Does not use HTTPS — 35 insecure requests found ⌄

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.

☐ ~~Show 3rd-party resources~~ (0)

Insecure URL	Request Resolution
/user/Liam (cse110.bobobobobobo.net)	Allowed
/css/timer.css (cse110.bobobobobobo.net)	Allowed

Insecure URL	Request Resolution
/js-trans/timer.js (cse110.bobobobobobo.net)	Allowed
…fonts/Exo2-SemiBold.ttf (cse110.bobobobobobo.net)	Allowed
/js-trans/utils.js (cse110.bobobobobobo.net)	Allowed
…components/settings.js (cse110.bobobobobobo.net)	Allowed
…components/timer-display.js (cse110.bobobobobobo.net)	Allowed
…components/control-button.js (cse110.bobobobobobo.net)	Allowed
…components/modal.js (cse110.bobobobobobo.net)	Allowed
…components/task-list.js (cse110.bobobobobobo.net)	Allowed
…components/task.js (cse110.bobobobobobo.net)	Allowed
…state_machines/state_machine.js (cse110.bobobobobobo.net)	Allowed
…state_machines/timer_state_machine.js (cse110.bobobobobobo.net)	Allowed
…persistence/data.js (cse110.bobobobobobo.net)	Allowed
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…images/add-task.png (cse110.bobobobobobo.net)	Allowed
/fetchuserdata (cse110.bobobobobobo.net)	Allowed
/css/settings.css (cse110.bobobobobobo.net)	Allowed
/md/instructions.md (cse110.bobobobobobo.net)	Allowed
…settings/light.png (cse110.bobobobobobo.net)	Allowed
…settings/dark.png (cse110.bobobobobobo.net)	Allowed
…settings/logo.jfif (cse110.bobobobobobo.net)	Allowed
/css/modal.css (cse110.bobobobobobo.net)	Allowed
/css/task-item.css (cse110.bobobobobobo.net)	Allowed
/uploaduserdata (cse110.bobobobobobo.net)	Allowed

Insecure URL	Request Resolution
…images/delete.png (cse110.bobobobobobo.net)	Allowed
…images/edit.png (cse110.bobobobobobo.net)	Allowed

▲ Links to cross-origin destinations are unsafe ⌃

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

Failing Anchors

a

Passed audits (14) ⌃

Avoids requesting 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](#).

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.

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
…1.4.0/showdown.min.js (cdnjs.cloudflare.com)	…1.4.0/showdown.min.js.map (cdnjs.cloudflare.com)

    Warning: missing 1 item in `.sourcesContent`

/js-trans/utils.js (cse110.bobobobobobo.net)

/js-trans/timer.js (cse110.bobobobobobo.net)

…state_machines/timer_state_machine.js (cse110.bobobobobobo.net)

…state_machines/state_machine.js (cse110.bobobobobobo.net)

…persistence/data.js (cse110.bobobobobobo.net)

…components/timer-display.js (cse110.bobobobobobo.net)

…components/task.js (cse110.bobobobobobo.net)

…components/task-list.js (cse110.bobobobobobo.net)

…components/settings.js (cse110.bobobobobobo.net)

…components/modal.js (cse110.bobobobobobo.net)

…components/control-button.js (cse110.bobobobobobo.net)

Not applicable (1) ⌃

Fonts with `font-display: optional` are preloaded ⌃

Preload `optional` fonts so first-time visitors may use them. [Learn More](#)

90

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 (9) ⌃

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 avoids plugins ^

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

Not applicable (4) ^

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.

Document uses legible font sizes ^

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.

Tap targets are sized appropriately ^

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.

PWA

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

⚠ Does not use HTTPS — 35 insecure requests found   ⌃

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.

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…images/delete.png (cse110.bobobobobobo.net)		Allowed
…images/edit.png (cse110.bobobobobobo.net)		Allowed

⚠ 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

⚠ Does not redirect 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. ᐱ

Content is sized correctly for the viewport ᐱ

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` ᐱ

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

Contains some content when JavaScript is not available ᐱ

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` ᐱ

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 ᐱ

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. ᐱ

Site works cross-browser ᐱ

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 ᐱ

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 ᐱ

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	http://cse110.bobobobobobo.net/user/Liam
Fetch Time	Mar 17, 2021, 6:30 PM PDT

Device	Emulated Desktop
Network throttling	40 ms TCP RTT, 10,240 Kbps throughput (Simulated)
CPU throttling	1x slowdown (Simulated)
Channel	devtools
User agent (host)	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/88.0.4324.182 Safari/537.36 Edg/88.0.705.81
User agent (network)	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_14_6) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/84.0.4143.7 Safari/537.36 Chrome-Lighthouse
CPU/Memory Power	582
Axe version	3.5.5

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