https://kunupat.github.io/
Dec 8, 2018, 7:57 PM GMT+5:30
Emulated Nexus 5X, Simulated Slow 4G network

Performance	Progressive Web App	Accessibility	Best Practices	SEO
97	100	100	100	100

Score scale: 90-100 50-89 0-49

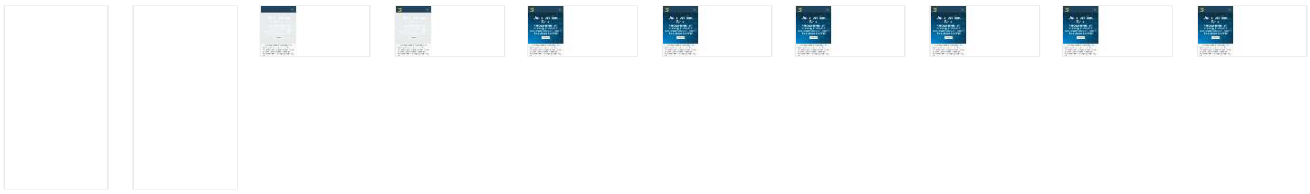
Performance

97

Metrics

First Contentful Paint	1.8 s	First Meaningful Paint	2.0 s
Speed Index	2.9 s	First CPU Idle	2.4 s
Time to Interactive	2.5 s	Estimated Input Latency	10 ms

Values are estimated and may vary.



Opportunities

These optimizations can speed up your page load.

	Opportunity	Estimated Savings
1	Eliminate render-blocking resources	1.04 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.

URL	Size (KB)	Potential Savings (ms)
…css/bootstrap.min.css (stackpath.bootstrapcdn.com)	21 KB	950 ms
…css/all.css (use.fontawesome.com)	13 KB	1,040 ms

Diagnostics

More information about the performance of your application.

1	Serve static assets with an efficient cache policy	4 resources found

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

URL	Cache TTL	Size (KB)
…images/jumbotron-bg.svg (kunupat.github.io)	10 m	170 KB
…images/favicon-256.png (kunupat.github.io)	10 m	9 KB
…css/styles.css (kunupat.github.io)	10 m	0 KB
/count.js (https-kunupat-github-io.disqus.com)	1 d	1 KB

2 Minimize Critical Requests Depth — 3 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: **1,720 ms**

Initial Navigation

- / (kunupat.github.io)
  - …css/styles.css (kunupat.github.io) **- 50 ms, 0.46 KB**
  - …css/bootstrap.min.css (stackpath.bootstrapcdn.com) **- 470 ms, 20.79 KB**
  - …css/all.css (use.fontawesome.com) **- 730 ms, 12.84 KB**
- /manifest.json (kunupat.github.io) **- 440 ms, 0.41 KB**

Passed audits — 19 audits

Opportunities

These optimizations can speed up your page load.

1 Properly size images — Potential savings of 7 KB

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

URL	Size (KB)	Potential Savings (KB)
…images/favicon-256.png (kunupat.github.io)	8 KB	7 KB

2 Defer offscreen images

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

3 Minify CSS

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

4 Minify JavaScript

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

5 Defer unused CSS — Potential savings of 33 KB

Remove unused rules from stylesheets to reduce unnecessary bytes consumed by network activity. Learn more.

URL	Size (KB)	Potential Savings (KB)
…css/bootstrap.min.css (stackpath.bootstrapcdn.com)	21 KB	20 KB
…css/all.css (use.fontawesome.com)	13 KB	13 KB

6 Efficiently encode images

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

7 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.

8 Enable text compression

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

9 Preconnect to required origins

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

10 Server response times are low (TTFB) Root document took 50 ms

Time To First Byte identifies the time at which your server sends a response. Learn more.

11 Avoid multiple page redirects

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

12 Preload key requests

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

13 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

Diagnostics

More information about the performance of your application.

14 Avoids enormous network payloads Total size was 269 KB

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

URL	Size (KB)
…images/jumbotron-bg.svg (kunupat.github.io)	170.4 KB
/jquery-3.3.1.slim.min.js (code.jquery.com)	23.9 KB
…css/bootstrap.min.css (stackpath.bootstrapcdn.com)	20.8 KB
…js/bootstrap.min.js (stackpath.bootstrapcdn.com)	13.9 KB

URL	Size (KB)
…css/all.css (use.fontawesome.com)	12.8 KB
…images/favicon-256.png (kunupat.github.io)	8.7 KB
…umd/popper.min.js (cdnjs.cloudflare.com)	6.9 KB
…images/icon-144x144.png (kunupat.github.io)	6.6 KB
https://kunupat.github.io	3.1 KB
/count.js (https-kunupat-github-io.disqus.com)	1.4 KB

15 Avoids an excessive DOM size — 60 nodes

Browser engineers recommend pages contain fewer than ~1,500 DOM nodes. The sweet spot is a tree depth < 32 elements and fewer than 60 children/parent element. A large DOM can increase memory usage, cause longer style calculations, and produce costly layout reflows. Learn more.

Statistic	Element	Value
Total DOM Nodes		60
Maximum DOM Depth	`<a class="nav-link" href="/">`	7
Maximum Child Elements	`<head>`	25

16 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.

17 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.

URL	Total	Script Evaluation	Script Parse
/jquery-3.3.1.slim.min.js (code.jquery.com)	58 ms	56 ms	1 ms
…js/bootstrap.min.js (stackpath.bootstrapcdn.com)	53 ms	41 ms	13 ms

18 Minimizes main-thread work — 0.8 s

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

Category	Time Spent
Other	316 ms
Rendering	161 ms
Script Evaluation	143 ms
Parse HTML & CSS	53 ms

Category	Time Spent
Style & Layout	50 ms
Script Parsing & Compilation	24 ms
Garbage Collection	7 ms

19 All text remains visible during webfont loads

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

Progressive Web App

100

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

Fast and reliable

1 Page load is fast enough on mobile networks

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

2 Current page responds 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.

3 start_url responds with a 200 when offline

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

Installable

4 Uses HTTPS

All sites should be protected with HTTPS, even ones that don't handle sensitive data. 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.

5 Registers a service worker

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.

6 User can be prompted to Install the Web App

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

PWA Optimized

7 Redirects HTTP traffic to HTTPS

If you've already set up HTTPS, make sure that you redirect all HTTP traffic to HTTPS. Learn more.

8 Configured for a custom splash screen

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

9 Sets an address-bar theme color

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

10 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.

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

Add a viewport meta tag to optimize your app for mobile screens. Learn more.

12 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.

Additional items to manually check 3 audits

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.

1 Site works cross-browser

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

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

Transitions should feel snappy as you tap around, even on a slow network, a key to perceived performance. Learn more.

3 Each page has a URL

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

Accessibility

100

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.

Additional items to manually check 11 audits

These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

1 The page has a logical tab order

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

2 Interactive controls are keyboard focusable

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

3 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.

4 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.

5 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.

6 Custom controls have associated labels

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

7 Custom controls have ARIA roles

Custom interactive controls have appropriate ARIA roles. Learn more.

8 Visual order on the page follows DOM order

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

9 Offscreen content is hidden from assistive technology

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

10 Headings don't skip levels

Headings are used to create an outline for the page and heading levels are not skipped. Learn more.

11 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 17 audits

ARIA Attributes Follow Best Practices

These are opportunities to improve the usage of ARIA in your application which may enhance the experience for users of assistive technology, like a screen reader.

1 `[aria-*]` attributes match their roles

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

2 `[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.

3 Elements with `[role]` that require specific children `[role]`s, are present

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

4 `[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.

5 `[role]` values are valid

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

6 `[aria-*]` attributes have valid values

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

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

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

Elements Have Discernible Names

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.

8 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.

9 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.

Elements Describe Contents Well

These are opportunities to make your content easier to understand for a user of assistive technology, like a screen reader.

10 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.

11 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.

Color Contrast Is Satisfactory

These are opportunities to improve the legibility of your content.

12 Background and foreground colors have a sufficient contrast ratio

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

Elements Are Well Structured

These are opportunities to make sure your HTML is appropriately structured.

13 `[id]` attributes on the page are unique

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

Page Specifies Valid Language

These are opportunities to improve the interpretation of your content by users in different locales.

14 `<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.

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

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

Elements Use Attributes Correctly

These are opportunities to improve the configuration of your HTML elements.

16 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.

Meta Tags Used Properly

These are opportunities to improve the user experience of your site.

17 `[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

18 audits

Elements Use Attributes Correctly

These are opportunities to improve the configuration of your HTML elements.

1 `[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.

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

Captions make audio elements usable for deaf or hearing-impaired users, providing critical information such as who is talking, what they're saying, and other non-speech information. Learn more.

3 `<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.

4 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.

5 Cells in a `<table>` element that use the `[headers]` attribute only refer to other cells of that 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.

6 `<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.

Elements Are Well Structured

These are opportunities to make sure your HTML is appropriately structured.

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

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

8 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.

9 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.

10 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.

Elements Describe Contents Well

These are opportunities to make your content easier to understand for a user of assistive technology, like a screen reader.

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

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

12 Form elements have associated labels

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

13 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.

14 `<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.

15 `<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.

16 `<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.

Meta Tags Used Properly

These are opportunities to improve the user experience of your site.

17 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.

Page Specifies Valid Language

These are opportunities to improve the interpretation of your content by users in different locales.

18 `[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.

Best Practices

Passed audits

15 audits

100

1 Avoids Application Cache

Application Cache is deprecated. Learn more.

2 Uses HTTPS

All sites should be protected with HTTPS, even ones that don't handle sensitive data. 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.

3 Uses HTTP/2 for its own resources

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

4 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.

5 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.

6 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.

7 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 user gestures instead. Learn more.

8 Page has the HTML doctype

Specifying a doctype prevents the browser from switching to quirks-mode.Read more on the MDN Web Docs page

9 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.

10 Detected JavaScript libraries

All front-end JavaScript libraries detected on the page.

Name	Version
Bootstrap	4.1.3
jQuery	3.3.1

11 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.

12 Avoids deprecated APIs

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

13 Allows users to paste into password fields

Preventing password pasting undermines good security policy. Learn more.

14 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.

15 Displays images with correct aspect ratio

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

SEO

100

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.

Additional items to manually check 2 audits

Run these additional validators on your site to check additional SEO best practices.

1 Page is mobile friendly

Take the Mobile-Friendly Test to check for audits not covered by Lighthouse, like sizing tap targets appropriately. Learn more.

2 Structured data is valid

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

Passed audits 11 audits

Mobile Friendly

Make sure your pages are mobile friendly so users don't have to pinch or zoom in order to read the content pages. Learn more.

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

Add a viewport meta tag to optimize your app for mobile screens. Learn more.

2 Document uses legible font sizes 100% 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.

Source	Selector	% of Page Text	Font Size
Legible text		100.00%	≥ 12px

Content Best Practices

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

3 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.

4 Document has a meta description

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

5 Links have descriptive text

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

6 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.

7 Document has a valid `rel=canonical`

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

8 Document avoids plugins

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

Crawling and Indexing

To appear in search results, crawlers need access to your app.

9 Page has successful HTTP status code

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

10 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.

11 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.

Runtime settings

- **URL:** `https://kunupat.github.io/`
- **Fetch time:** `Dec 8, 2018, 7:57 PM GMT+5:30`
- **Device:** `Emulated Nexus 5X`
- **Network throttling:** `150 ms TCP RTT, 1,638.4 Kbps throughput (Simulated)`
- **CPU throttling:** `4x slowdown (Simulated)`
- **User agent (host):** `Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/71.0.3578.80 Safari/537.36`
- **User agent (network):** `Mozilla/5.0 (Linux; Android 6.0.1; Nexus 5 Build/MRA58N) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/71.0.3559.0 Mobile Safari/537.36`
- **CPU/Memory Power:** `430`

Generated by **Lighthouse** 4.0.0-alpha.1 | File an issue