

1: What was your experience after trying out a screen reader? What did you learn? Try one site, *not your project site*, with a screen reader. What site was it? How easy or hard was it to navigate? Now, try *your own project site*, with a screen reader. What site was it? How easy or hard was it to navigate?

Umar) I tried using screen reader on bcourses and on google search and found navigation nearly impossible using just a keyboard. This is probably due to my lack of knowledge surrounding the shortcuts, but regardless, selecting any buttons in bcourses was quite difficult without mouse input. Moreover, searching for anything in google search leads to the screen reader reading out the url of the search query, which is just a confusing mess of letters and numbers. If anything, the voiceover does not seem optimized to work well on cluttered sites like bcourses and search engines. Selections with the mouse were not necessarily easy to get properly read out in the voiceover either.

Screen reading was relatively not too bad on our website due to the simple layout of the page. There aren't too many buttons or options cluttering the page so it's not too hard to navigate.

MJ) I used the screen reader on the github and on the apple tutorial for enabling voiceover. It was really difficult to navigate given the necessary knowledge of shortcuts and keypresses in order to use it effectively and I found myself struggling to get it to read some text off the screen. On our own site, it was also difficult even after getting the hang of it. Text read out fine, and everything was quite smoothly given I had my vision to guide me, but I imagine it would have been really difficult to navigate given how most of our html elements weren't labelled.

James Hansberry) Trying out the screen reader was quite interesting as it literally reads not just what is on the screen but also aspects that are needed for any kind of navigation or operation. As it is a new system that is quite complex, it's hard to get used to, but I am sure with some practice this would be a quite useful tool for people with visual impairment. Trying the screen reader on github was quite overwhelming as there as so many options to choose from which all need to be read out instead. It worked a little better on our application since we don't have as much undercover/hidden features that need to be taken into account.

Xiao Ming) It was a very awkward experience. I turned on the screen reader without realizing how loud it would be on speakers in mlk. I opened YouTube on Safari with VoiceOver. It takes a very long time to navigate to a video as the screen reader reads everything on the screen, sometimes even letter by letter. It isnt as bad on our site because there aren't as many elements on our sites. Turning it off is very difficult as I had to double press the button on Touch Bar, which is another layer of inconvenience for visually impaired people as the physical buttons are replaced with virtual ones.

Nilloofar Izadian) I tried the screen reader for the [Apple guideline page](#), I didn't really find it effective because I had to clink on things in order for the screen reader to read things, and it was a little bit confusing in the beginning since it reads every single text and non

texts. I found it a little hard to navigate in the beginning. I also tried it on our own project, and found it a little hard to navigate on that as well.

2) Keyboard Navigation

Umar) Keyboard navigation without screen reader for most sites is fairly intuitive, since tabbing through a webpage is not very unusual to me. Using keyboard navigation on a site like bcourses is a bit difficult due to all of the different buttons and fields present on the page. Navigating our site was not too difficult.

MJ) Keyboard navigation was pretty easy for both sites as it managed to find all links on the page and get to them appropriately.

James Hansberry) Navigating a site with a keyboard didn't seem to foreign to me as I usually do that for most of the websites I use (Mainly for scrolling or doing actions that are the same like highlighting the URL bar with ctrl + L). Again using this on our site was not too bad as the complexity of it does not match that of a website like githubs, so it was easy to tab through the elements to try and navigate to certain objects.

Xiao Ming) I tried to navigate YouTube again with only the keyboard. It was practically impossible to go to the video that I want to view without my subconscious taking over my hand and using the trackpad instead. I had to use the Tab key to iterate over links in the website, which is very cumbersome. Using a keyboard on our website is pretty easy because there are very few elements per page, and that the search/filter function enables fast navigation so that a user doesn't have to iterate through the entire catalog to find what they want.

Niloofar Izadian) I tried using keyboard for github, and I thought it was pretty easy to navigate compare to the screen reader. Using tabs to go through different options could be helpful for a page with less amount of content and keyboard could be used in those cases. However, for a page with lots of links and contents I don't really think I would use such feature. I also tried using the keyboard for our project and I found it very easy to navigate.

-----> We did the following parts as a team <-----

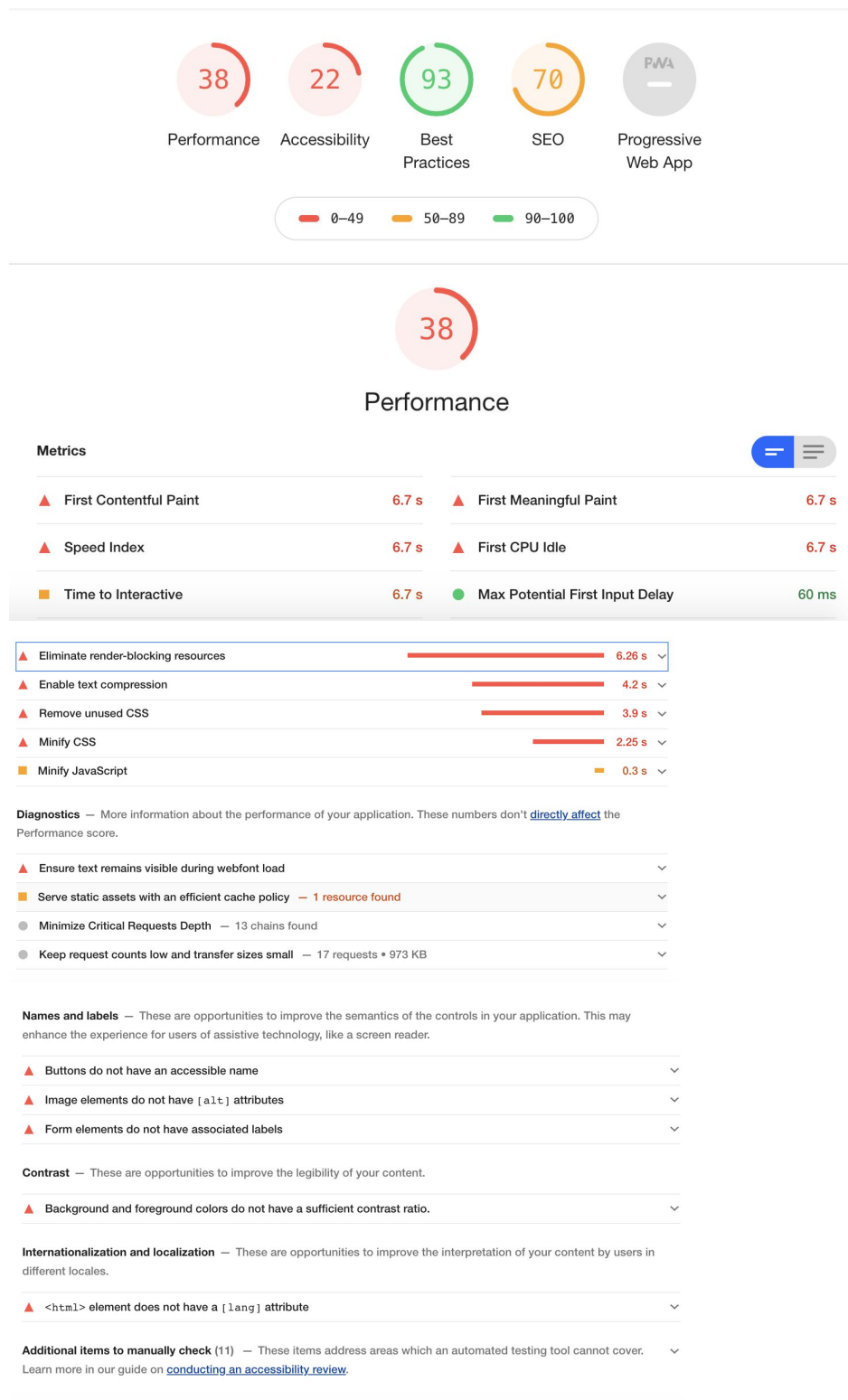
2: What did the accessibility tests from Audits tab in Chrome report? * Include the route in your report along with screen shots. What did the tests from Accessibility Insights "Fast Pass" report?

Chrome Audit: route: <http://localhost:3000/users?btnAddMore=All+Profiles++++> Overall Score: 38

The audit reported that we were really good at following the 'best practices' looked for in the automated audit, but that our performance and accessibility were really low. Apparently our

page takes a lot of time to handle requests and there are design elements for buttons and whatnot that we are missing.

Screenshots:



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.	
▲ Does not have a <meta name="viewport"> tag with width or initial-scale	No viewport meta tag found
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	
▲ Image elements do not have [alt] attributes	
Additional items to manually check (1) — Run these additional validators on your site to check additional SEO best practices.	
Installable	
● Uses HTTPS	
▲ Does not register a service worker that controls page and start_url	
▲ Web app manifest does not meet the installability requirements	Failures: No manifest was fetched.
PWA Optimized	
▲ Does not redirect HTTP traffic to HTTPS	
▲ Is not configured for a custom splash screen	Failures: No manifest was fetched.
▲ Does not set an address-bar theme color	Failures: No manifest was fetched, No <meta name="theme-color"> tag found.
● Content is sized correctly for the viewport	
▲ Does not have a <meta name="viewport"> tag with width or initial-scale	No viewport meta tag found
● Contains some content when JavaScript is not available	
▲ Does not provide a valid apple-touch-icon	

Fast Pass audit:

- ☒ > **button-name:** Buttons must have discernible text (❌ 1) [WCAG 4.1.2](#)
- ☒ > **color-contrast:** Elements must have sufficient color contrast (❌ 4) [WCAG 1.4.3](#)
- ☒ > **html-has-lang:** <html> element must have a lang attribute (❌ 1) [WCAG 3.1.1](#)
- ☒ > **image-alt:** Images must have alternate text (❌ 2) [WCAG 1.1.1](#)
- ☒ > **label:** Form elements must have labels (❌ 2) [WCAG 1.3.1](#), [WCAG 3.3.2](#)

This showed a condensed version of the errors we found in the Accessibility Insights audit, and showed very similar results to what google's audit generated as well when it comes to missing visual features.

Accessibility Insights Assessment:

After running the Accessibility Insights assessment, we had about 5 errors, some visual and some pertaining to the structure of the pages HTML. For the non-visual errors, these were to be expected as it is quite easy to forget to maybe label and HTML element by convection, even if the label isn't utilized. For the visual errors, they made good suggestions in improving the overall visual quality of the page. Most of these errors did persist across multiple pages since most of the pages utilized similar formatting. Here are some of the errors and how we fixed them.

1. One of the errors we received was "Elements must have sufficient color contrast" referring to the navbar. We changed the color from #ad7900 to #3927e0, fixing the assessment error

2. Another error was "<html> element must have a lang attribute." We added lang="en" to <html> in views/layouts/application.erb.html and mailer.erb.html.

Before:

```
<html>
```

```
...
```

```
</html>
```

After:

```
<html lang="en">
```

```
...
```

```
</html>
```