

2022 PROGRAMMING USABLE INTERFACES

Final project write up

Testing environment

Screen size:

- 1440 × 1024
- 390 × 844

Part 1

— PURPOSE

The **purpose** of the website is to inform viewers on what it would be like to view a website with visual impairments. Through the website, I hope to **deliver the experience** of such users to those who never had the chance to do so. The website also includes the following **information** on the visual impairments: how common it is, types of symptoms, causes, and what we can do to treat/prevent each. It aims to keep the viewers engaged through the interactions users can do with it to experience each of the impairments. It also incorporates small animations for text display to make it more interesting. The target audience of this website is anyone who wants to experience what it would be like to navigate through a website with different disabilities.

Part 2

— HOW TO INTERACT

- **Home**

- You can hover over the disabilities buttons and they will change their color from black to white.
- You can click on each to be redirected to another page.

- **Tunnel Vision**

- The flashlight effect is intended to replicate the visual range a person with tunnel vision has. As you move your mouse, the effect will follow the cursor.
- Navigate the cursor along the hints provided, and you'll find a way to the next page!
- You can click anywhere on the page to "turn off the light".

- Beneath the bottom line is the bottom navigation menu bar. All of them are clickable, and will redirect you to another page.
- **Visual impairments (other than the Tunnel Vision one)**
 - “Meanwhile, you can explore” is animated.
 - There is a back button that will lead you back to the home page.
 - The tunnel vision button will lead you to the tunnel vision experience page.

Part 3

— EXTERNAL TOOLS

- **Jquery**
 - Why: I chose Jquery because it was very flexible with what I could do. I also felt that the implementation was relatively simple and intuitive compared to other libraries.
 - How: I used it for the flashlight effect in the tunnel vision page.
 - What it adds to the website: By using Jquery, I was able to implement the flashlight effect on the tunnel vision page. Users are able to use their cursor as if they are moving their eyes on the page. They can also click on the page to turn off the effect and click again to turn it back on.
- **Textillate**
 - Why: I chose Textillate because it was very convenient to use for animating text.
 - How: I implemented it for the rolling effect of a line of text.
 - What it adds to the website: The “Meanwhile, you can explore” text will roll out when the user enters the page.

Part 4

— ITERATION

When I started designing the website, I missed out a lot on the overall navigation of the website. (e.g. the overall user flow of the website) Looking back, I think this was because I missed the step of creating the flow wireframe and instead, started out by sketching each screen and designing them one by one. In order to improve the flow, I added a navigation menu bar at the

bottom of the pages, and also a back button. While implementing the website, especially when I was thinking about the responsive design, I had to redesign a lot of the screens just for the mobile. The home page especially required a lot of iteration because it utilized the full screen of a desktop so I had to reduce a lot of things for the mobile screen. Also, controlling the level of intentional and unintentional frustration was difficult as well since I wanted the user to feel frustrated but not too much that it leads them to exit the website. So I conducted few rounds of usability testing on my friends to iterate on the different level of hints I needed to provide on the tunnel vision page.

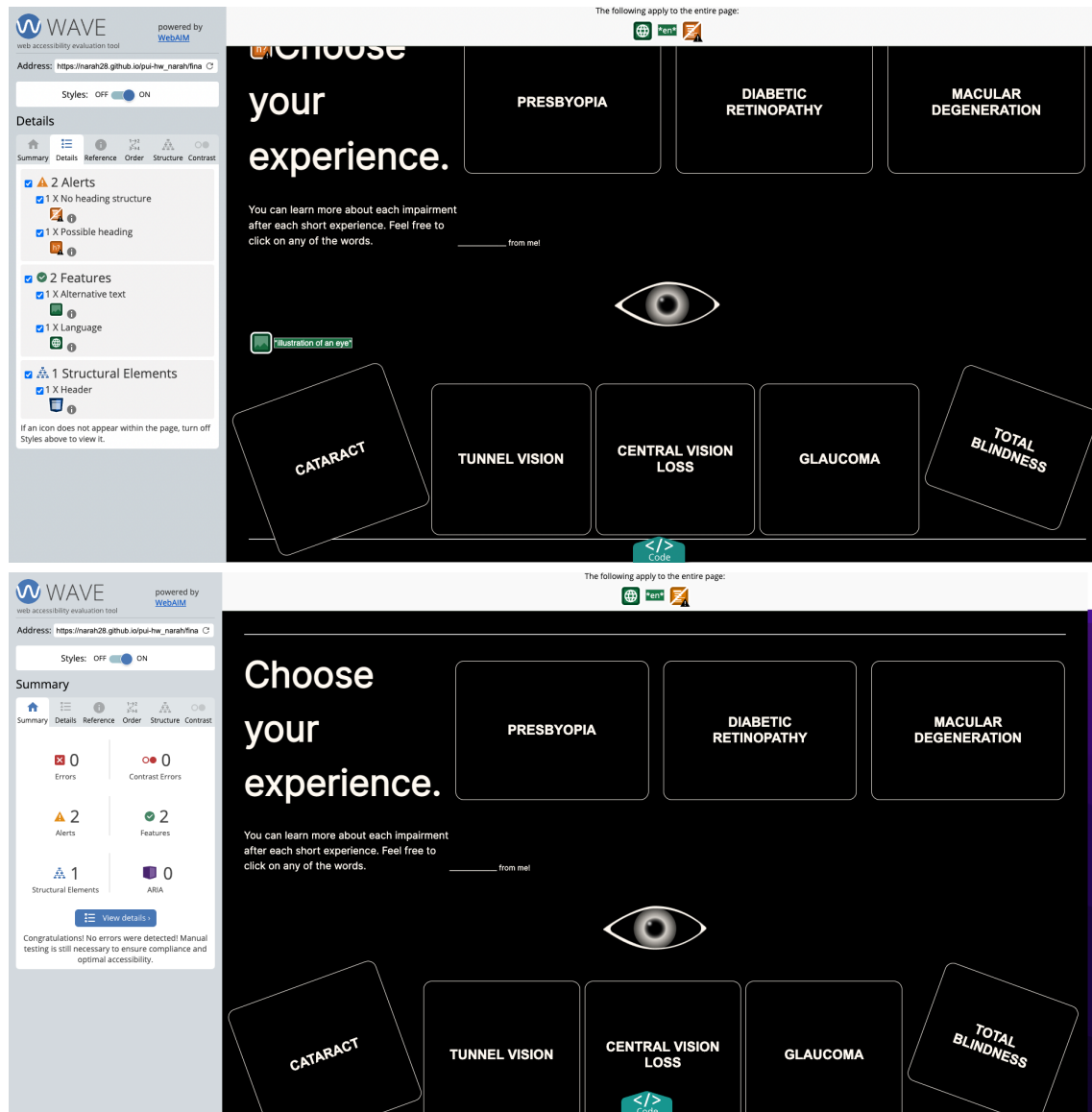
Part 5

— CHALLENGES

The most difficult part of implementing the design was estimating how much time it will take for me to put in each function. I didn't have a clear idea of how long it would take me, so when I tried implementing each of the disabilities, I was stuck on a lot of them, and couldn't complete all of them on time. Some things that looked relatively simple turned out to be very complicated and vice versa.

Accessibility

—HOME



—TUNNEL VISION (ACTIVITY PAGE)

The following apply to the entire page:

WAVE powered by WebAIM
web accessibility evaluation tool
Address: https://narah28.github.io/pui-hw_narahfina

Styles: OFF ON

Summary

Summary Details Reference Order Structure Contrast

0 Errors	0 Contrast Errors
2 Alerts	2 Features
1 Structural Elements	0 ARIA

[View details](#)

Congratulations! No errors were detected! Manual testing is still necessary to ensure compliance and optimal accessibility.

<https://wave.webaim.org>

[Code](#)

The following apply to the entire page:

WAVE powered by WebAIM
web accessibility evaluation tool
Address: https://narah28.github.io/pui-hw_narahfina

Styles: OFF ON

Details

Summary Details Reference Order Structure Contrast

- 2 Alerts
 - 1 X No heading structure
 - 1 X Possible heading
- 2 Features
 - 1 X Alternative text
 - 1 X Language
- 1 Structural Elements
 - 1 X Header

If an icon does not appear within the page, turn off Styles above to view it.

<https://wave.webaim.org>

[Code](#)

—TUNNEL VISION (EXPLANATION PAGE)

The following apply to the entire page:

h? mostly induced by glaucoma

harm to the optic nerve which causes peripheral vision loss

TUNNEL VISION

Code

The following apply to the entire page:

h? mostly induced by glaucoma

harm to the optic nerve which causes peripheral vision loss

TUNNEL VISION

Code

WAVE powered by WebAIM
web accessibility evaluation tool

Address: https://narah28.github.io/pui-hw_narah/fina

Styles: OFF ☒ ON

Details

Summary Details Reference Order Structure Contrast

13 Alerts

- 1 X No heading structure
- 7 X Possible heading
- 5 X Redundant link

2 Features

- 1 X Alternative text
- 1 X Language

1 Structural Elements

- 1 X Header

Summary

Summary Details Reference Order Structure Contrast

0 Errors	0 Contrast Errors
13 Alerts	2 Features
1 Structural Elements	0 ARIA

View details

Congratulations! No errors were detected! Manual testing is still necessary to ensure compliance and optimal accessibility.

—COME BACK NEXT TIME

WAVE powered by WebAIM
web accessibility evaluation tool
Address: https://narah28.github.io/pui-hw_narahfina/
Styles: OFF ☒ ON

Summary

Summary Details Reference Order Structure Contrast

0 Errors	0 Contrast Errors
2 Alerts	2 Features
1 Structural Elements	0 ARIA

[View details](#)

Congratulations! No errors were detected! Manual testing is still necessary to ensure compliance and optimal accessibility.

The following apply to the entire page:

MACULAR GLAUCOMA
DIABETIC RETINOPATHY
CATARACT
PRESBYOPIA
TOTAL BLINDNESS

Will be ready soon!
Come back later :)

Meanwhile, you can explore

[TUNNEL VISION](#)

[Code](#)

WAVE powered by WebAIM
web accessibility evaluation tool
Address: https://narah28.github.io/pui-hw_narahfina/
Styles: OFF ☒ ON

Details

Summary Details Reference Order Structure Contrast

4 Alerts

- 1 X No heading structure
- 1 X No page regions
- 2 X Possible heading

2 Features

- 1 X Alternative text
- 1 X Language

1 Structural Elements

- 1 X Unordered list

The following apply to the entire page:

MACULAR GLAUCOMA
DIABETIC RETINOPATHY
CATARACT
PRESBYOPIA
TOTAL BLINDNESS

[Code](#)