Screen Size:

1. MacBook 13 pro – 1440px * 900px
2. iPhone 13 pro max – 428px * 926px

Part 1 Introduction:

The purpose of this project is to spark curiosity and inspire a deeper interest in data visualization as a tool for communication for people who don't have a statistics background, by providing an interactive learning experience. This project will build an educational website for people to explore and learn data visualizations. Providing learning modules, interesting lead-in stories, and interactive graphs, the website will help people know different types of graphs by exploring and chart and interpreting the chart. This website is engaging for its interactivity with real-world datasets by exploring the variables in tags and their corresponding graph animations. The flipping-card quiz for each chapter helps the users consolidate their understanding with interesting interactions. The famous data visualizations from history to today are also here for users to explore and add to the gallery for future review. The target audience for this website is people above 15 years old who don't have a statistics background or data visualization experience. *[Note: The content for each chapter is currently using the sample content of "Chap 1 Bar chart". To distinguish each page, I used JavaScript to populate the header corresponding to each chapter.]*

Part 2 Interaction:

- **Navigation bar** – click the navigation bar at the top of each page to different pages
- Scrolling cards - scroll the bar or cards area on Home page > Learn section
- **Link to a specific page** - click on the image or text for each card on Home page > Learn section
- **Link to external page** – click the left 'Learn More' buttons on Home page >Data Visualization Examples section
- **Add example to gallery** – click the right 'Add to Gallery' button on Home page >Data Visualization Examples section
- **Remove example from gallery** – click the 'remove' button on Gallery page
- **Highlight/ Focus on the card** – hover on each card on Learn page
- **Link to specific pages** - click on the image or text for each card on Learn page
- **Display hidden definition** – hover on the tag of the variables on Module page (access from chapter card) > Explore the variable section

- **Select variable to display the chart** – click the tag of the variables on Module page > Explore the variable section to see the changed chart in the Explore the bar chart section
- **Dropdown box** – click to select different variables to display the chart on Module page > Explore the Bar Chart section
- **Interactive chart** – hover to see the floating detailed stat for each bar and interpretation below the bar chart on Module page > Explore the Bar Chart section
- **Flipping card** – hover on the quiz card to see the answer on Module page > Quiz Time section
- **Chapter navigation button** – click the buttons at the bottom of Module page

Part 3 External Tool:

I used the D3.js library. I chose this library to display the interactive data visualization effectively in learning materials. I used this library to create interactive bar charts that allow changing variables and hovering to see the specific interpretation for the chart component. This library is very helpful for users to explore real-world data, which adds fun, interactivity, and effectiveness to my website.

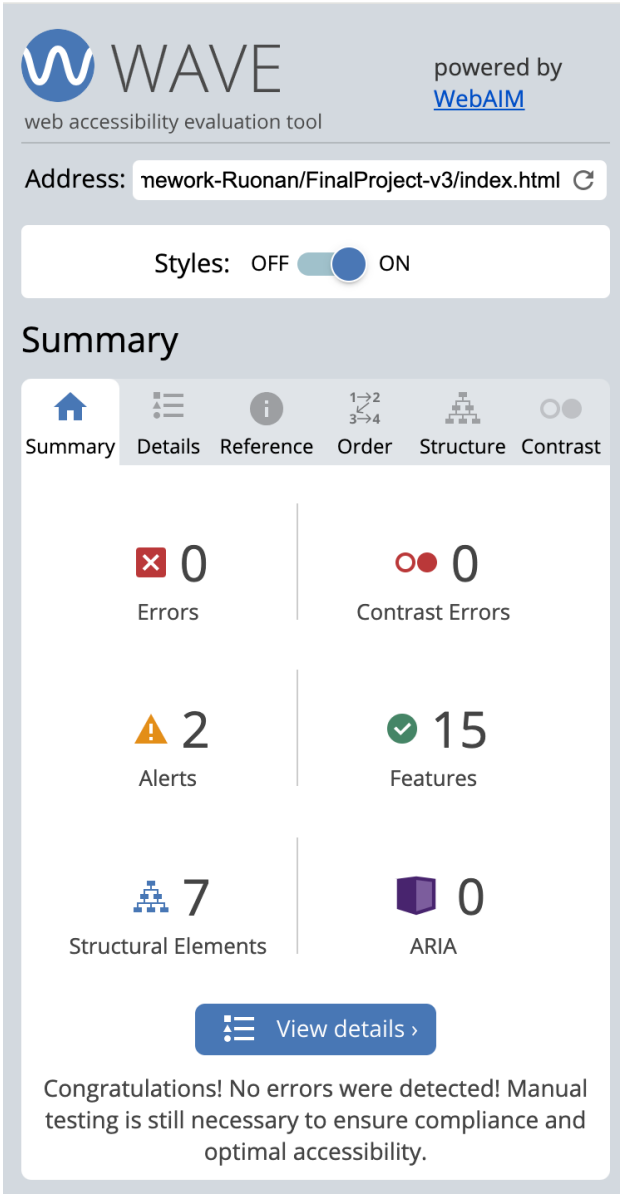
Part 4 Prototype Update:

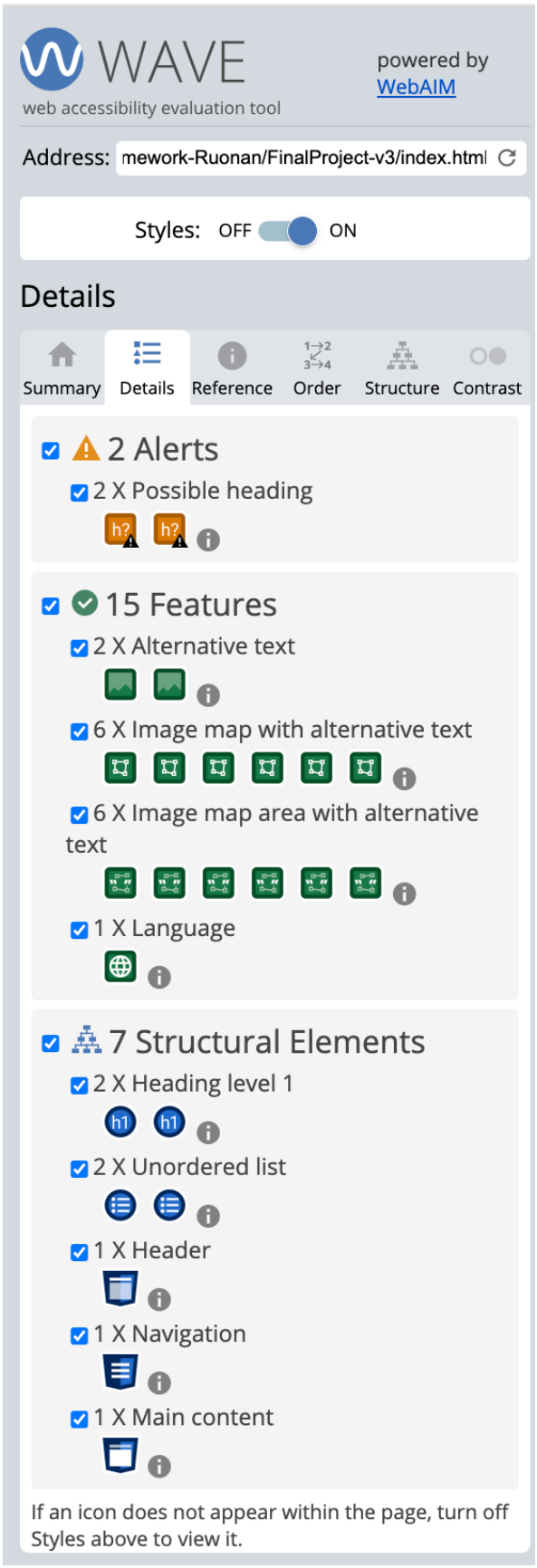
Instead of making a Daily Interesting Graph section on the home page that example changes per day, I implemented the iteration of current examples changes each time opening the home page. Instead of clicking on the left and right arrows to explore the chapters on the home page, I used a scrolling card that allows swiping and dragging the scrolling bar to explore. Instead of displaying the simple explanation for the bar, axes, and titles for the interactive chart, I changed to Interpretation for each stat represented by the bar to be more informative.

Part 5 Challenges:

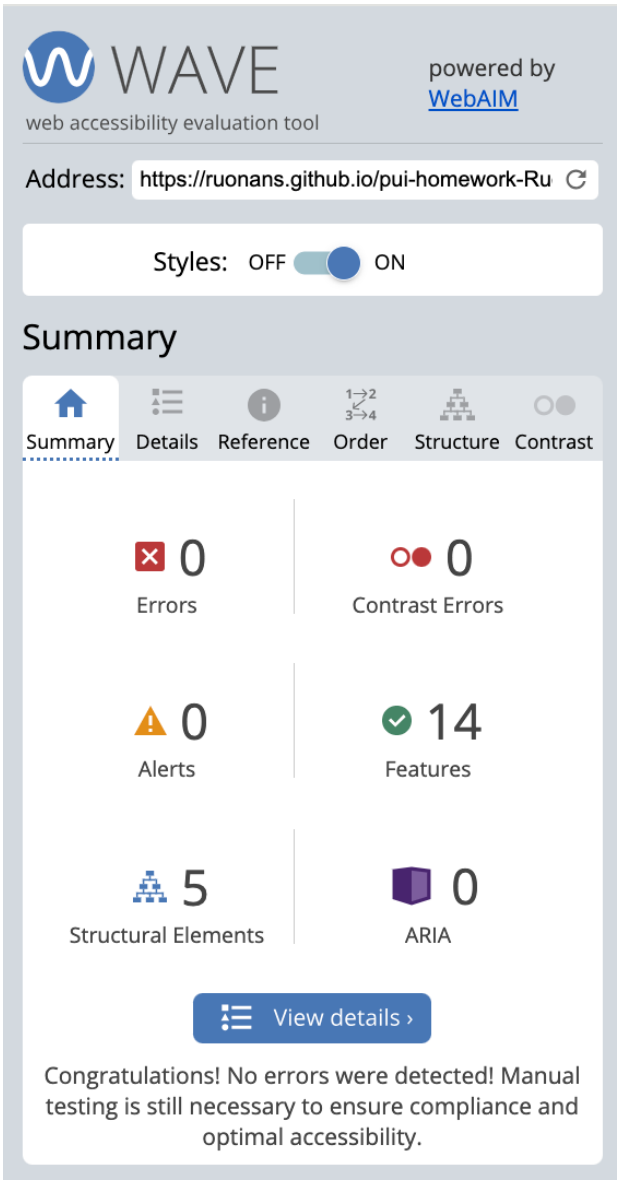
I met challenges in making my website responsive for mobile phone screens. Adjusting the margins, fonts, and images using media queries to calculate ideal layouts for some functions is very time-consuming. Sometimes, due to different screen settings, there are cases in which the same fonts appear different on different screens, which also requires a lot of energy to solve.

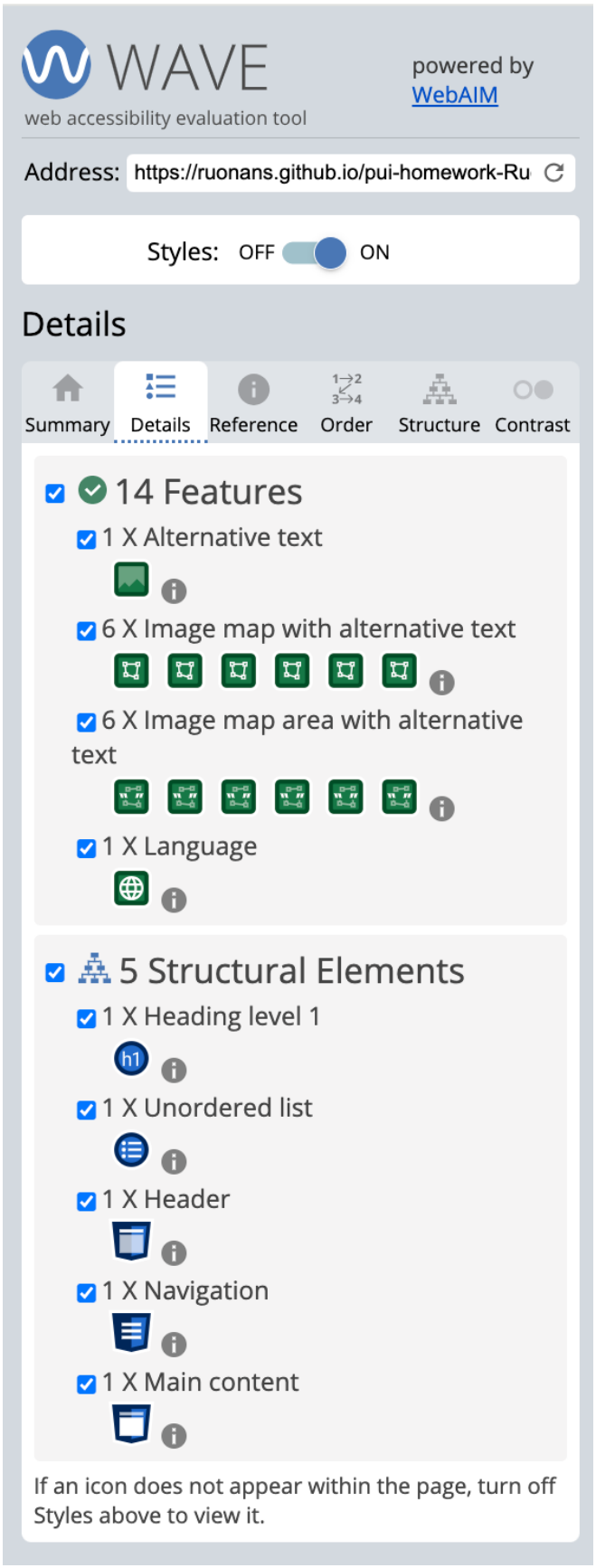
“Home” Page


WAVE
web accessibility evaluation tool
powered by WebAIM
Address: nework-Ruonan/FinalProject-v3/index.html
Styles: OFF ON
Summary
Summary Details Reference Order Structure Contrast
0 Errors
0 Contrast Errors
2 Alerts
15 Features
7 Structural Elements
0 ARIA
View details ›
Congratulations! No errors were detected! Manual testing is still necessary to ensure compliance and optimal accessibility.


WAVE
web accessibility evaluation tool
powered by WebAIM
Address: mework-Ruonan/FinalProject-v3/index.html
Styles: OFF ON
Details
Summary Details Reference Order Structure Contrast
2 Alerts
2 X Possible heading
15 Features
2 X Alternative text
6 X Image map with alternative text
6 X Image map area with alternative text
1 X Language
7 Structural Elements
2 X Heading level 1
2 X Unordered list
1 X Header
1 X Navigation
1 X Main content
If an icon does not appear within the page, turn off Styles above to view it.

“Learn” Page


WAVE
web accessibility evaluation tool
powered by WebAIM
Address: https://ruonans.github.io/pui-homework-Ru
Styles: OFF ON
Summary
Summary Details Reference Order Structure Contrast
0 Errors
0 Contrast Errors
0 Alerts
14 Features
5 Structural Elements
0 ARIA
View details ›
Congratulations! No errors were detected! Manual testing is still necessary to ensure compliance and optimal accessibility.


WAVE
web accessibility evaluation tool
powered by WebAIM
Address: https://ruonans.github.io/pui-homework-Ru
Styles: OFF ON
Details
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14 Features
1 X Alternative text
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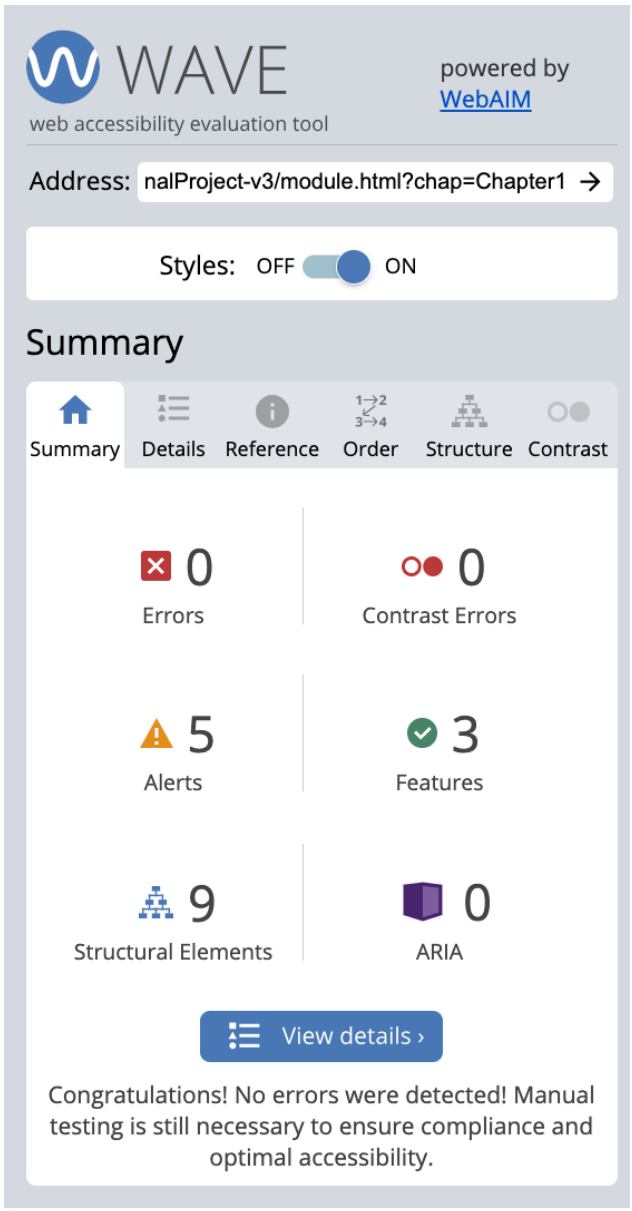
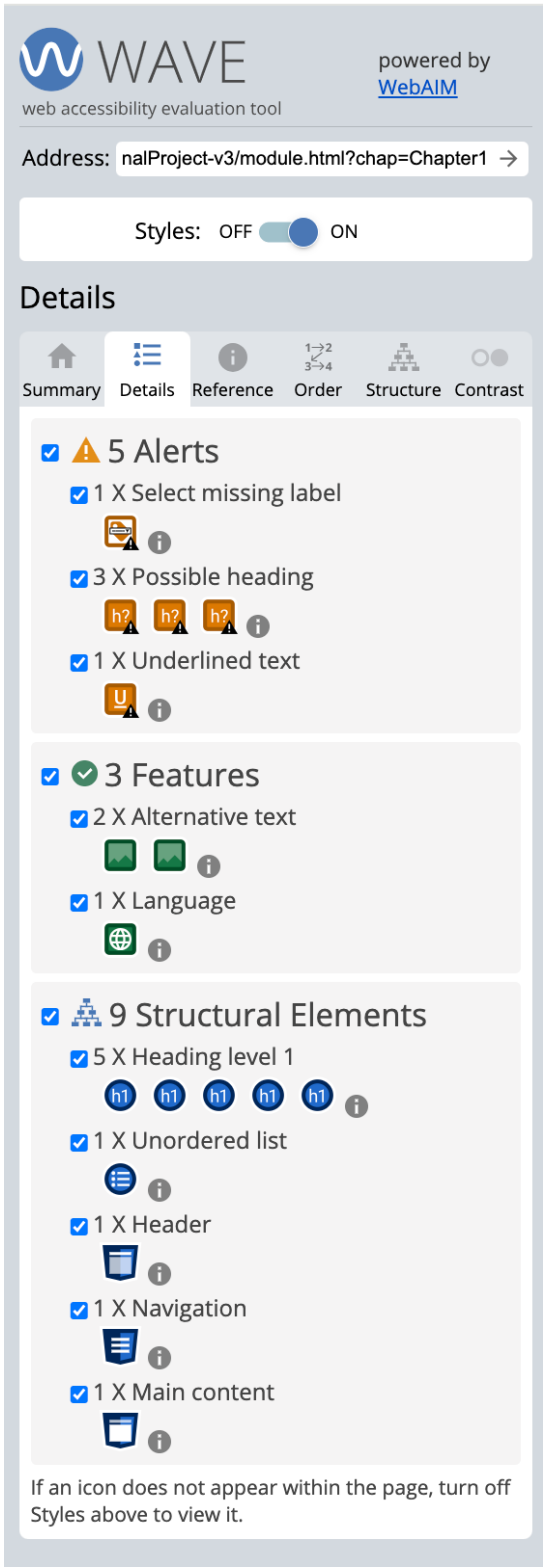
1 X Language
5 Structural Elements
1 X Heading level 1
1 X Unordered list
1 X Header
1 X Navigation
1 X Main content
If an icon does not appear within the page, turn off Styles above to view it.

“Module” Page
(Chapter page)





“Gallery” Page