PUI Final Project

Part 1 Description:

The purpose of this website is to provide an informational overview of major software introduced to the field of architecture. I hope to create a go-to resource for architecture researchers and students to not only learn about the tools we use, but also how they have influenced the way we design and even think about architecture. The website can also be used by the public without an architecture background, if they wish to learn about the digital history of architecture. The inspiration came from an exhibition called "The Architecture Machine" exhibition at Architekturmuseum der TUM in Munich. The website visualizes these tools in a timeline format as well as presents specific information of each tool, showcasing both their history and impact. The website also includes a list of projects as case study projects that have utilized these pieces of software. It incorporated animations, custom cursor and scrolling effects to make the site engaging.

Part 2 Interactions

- Homepage
    - Spinning "about": a button that can be clicked to open up a pop up of the exhibition information
    - "Let's go" on the bottom: a button that can be clicked to go to the timeline page
- Timeline page:
    - Nav bar on the top:
        - "About": a button that can be clicked to open up a pop up of the exhibition information
        - "Home": a button that can be clicked to go back to the home landing page
        - "Project": a button that can be clicked to go to the projects page
    - Scroll down to see each software. As the user scrolls, a picture, the name and the description of each software will appear on the screen. On the left side of the screen, there is a spinning wheel that will spin as the user scrolls, and the corresponding year of when each software was created will line up with the software.
    - As the user is scrolling down on this page, they can hover their cursor on the central image of each software, where the cursor will become a larger circle with the word "EXPLORE" in it. The user can then click in this area to open up the "interface" of each software.
- Projects page:
    - Case study cards: users can click on these cards to open a project pop up to learn more about each project. When the user hovers over a case study project card, the card will get larger to indicate that it is clickable
- Popups:
    - In all the popups, there includes a title, a subtitle, a description, and an image carousel.

- o There are two arrows on the sides of the image where users can click on and navigate through the image gallery
- o There is an "X" button on the top right that can be clicked to close the popup.

Part 3 External Libraries

- React router
  My website has multiple pages, and since React is a single page application, react router allows me route to multiple pages.
  I created different routes for different pages (i.e., "Products" page corresponds to "/products" route.
  React router makes it possible for me to implement more than one page, making the organization and flow of the website clearer

- Grommet
  I chose grommet because it provides a pretty complete design system components that more unique than the materialUI library. It is also easier to implement custom theme with Grommet so I could customize the components to my theme.
  I used many of its design system components. One example is "Box", which has built in quick styling and simple animations. Another example is "Layer", which is how I implemented my popups.

- Framer Motion
  I chose Framer Motion because it is one of the most powerful animation libraries. My website uses multiple types of animations (custom cursor, scroll-based, hover) so Framer Motion is one library that could provide all.
  I used for most of my animations. One example is the fade in effect of the case study projects in the "Projects" page. With Framer Motion I could set animation to start when they are in view. Another example is the custom cursor on the "Timeline" page, which uses FM's "variant" property to set different states for the cursor.
  I was able to make my website more dynamic and engaging with the animations. It also makes certain affordances clearer, such as the slight enlargement of the case study card when hover indicate clicking. Most components are also automatically responsive.

- React Scroll Parallax
  I chose it because it is a relatively small library that just does the one effect I want. Even parallax effect can also be achieved through using FM's function, I used this one because it is packaged better for a few simple effects and simpler to use.
  I used this library to implement the vertical parallax effect when scrolling on the "Timeline" page. For each software, the title, the image, and the brief description are moving at different speeds.
  It adds an interesting scrolling effect and some depth to the "Timeline" page.

Part 4 Prototypes Iterations

The main feedback I received from the earliest prototype was to indicate the bigger picture of this website (i.e., what is the goal or theme?). To address this, in second prototype I included a landing page on the "Timeline" which talks about the overall theme of this website (how computer has changed architecture). Additionally, I also changed some pages from the first prototype to popups so there was a cleared hierarchy to information. For the second prototype I received feedback on certain buttons not being clear enough and questions on how this could be for users without architectural background. In the final iteration, I addressed these comments by changing the shape and position of the buttons and reframed the goal of this website to provide a go-to resource for architecture researchers and students to learn about the tools we use, and an informational site for general public without an architecture background, if they wish to learn about the digital history of architecture.
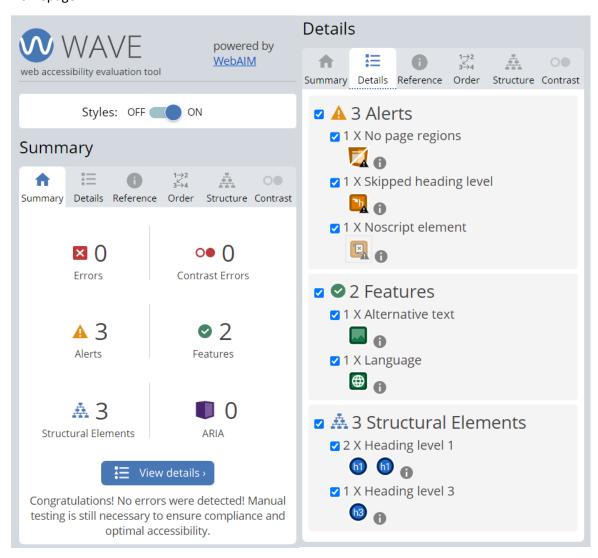
Part 5 Challenges

One challenge is implementing the Grommet library. There was a learning curve in terms of customizing some of the out of the box components. Another challenge would be implementing the view-based animation (animate when in/out of view). In terms of workflow I also find planning the project (what portion to implement first and what next) a bit challenging and sometimes I fell into the rabbit hole of tweaking the small stuff.
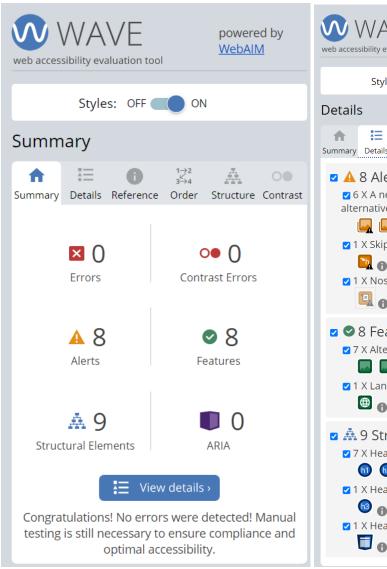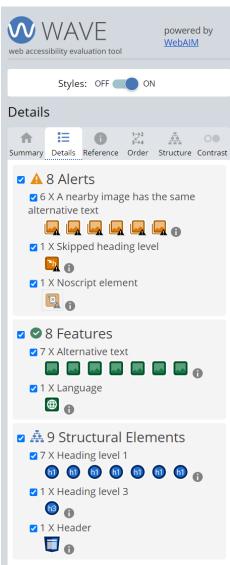
Appendix:

Screen size for testing: 1366 x 768

Homepage:

Timeline Page:

Projects Page: