

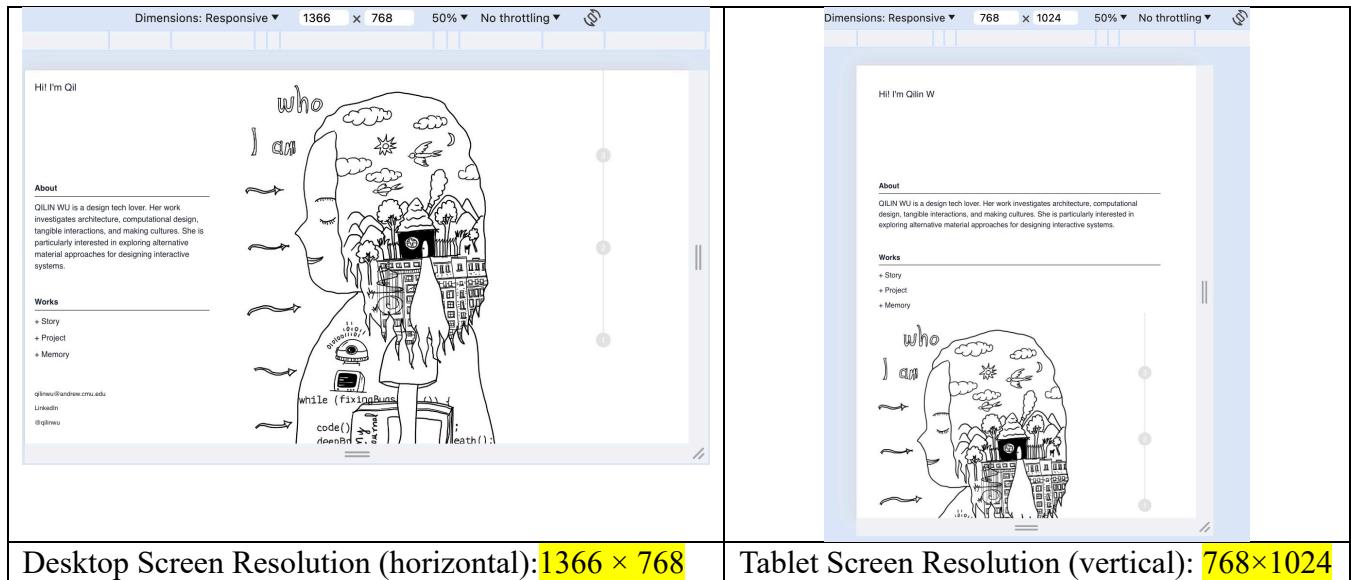
I Implementation

1 Deployed

This website is deployed in GCP and uploaded in GitHub.

Deployed website: <https://puiporfolio.ue.r.appspot.com/>

2 Responsive



3 Accessible

Since this react project is based on client-side rendering component visualization, wave does not support this feature. Thank TA for her suggestion. I will analyze the accessibility design of this project including three typical pages(one story page, one project page, and one memory page) by item based on the official website <https://wave.webaim.org/aim/> requirements:

Manual Accessibility Impact Score

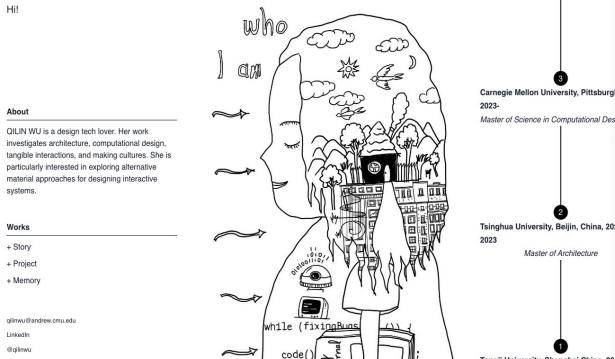
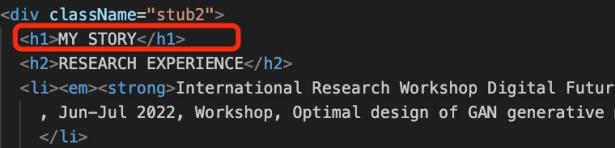
The Manual Accessibility Impact Score is generated via expert human testing of a sample of four web pages—typically the page, two significant content pages, and one randomly selected page. Testers review the four pages to measure the human accessibility impact of the following items:

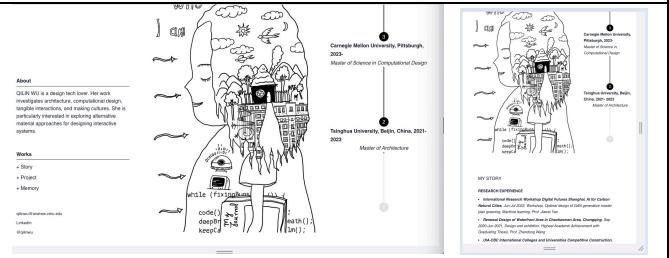
1. Accuracy of the web page's defined language
2. Appropriateness of image alternative text
3. Impact of empty links and buttons, if present
4. Impact of labeled or unlabeled form inputs
5. Impact of low contrast content
6. Appropriateness of page title
7. Presence and prevalence of animation and movement
8. Presence of keyboard focus indicators
9. Impact of other keyboard accessibility issues
10. Page support for reflow and responsive design

While this is not a comprehensive list of possible accessibility issues, these are among the most common and most impactful. The Manual Accessibility Impact Score gives a meaningful measure of how these issues impact users with disabilities on these

Figure 1.1 Wave Accessibility Impact Score

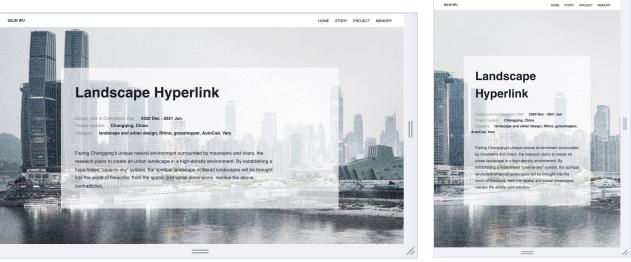
3.1 My Story

①	<pre><!DOCTYPE html> <html lang="en" data-theme="light" style="color-scheme: light;"></pre>	Accuracy of the web page's defined language: <ul style="list-style-type: none"> - “en” as English is defined here
②		Appropriateness of image alternative text: <ul style="list-style-type: none"> - Alt text is written for the only image in this page
③	<pre><div class="nav-section"> <h2>Works</h2> <p> + Story </p> <p> + Project </p> <p> == \$0 + Memory </p> </div></pre>	Impact of empty links and buttons if present: <ul style="list-style-type: none"> - Links in the left navigation bar all has text inside instead of empty
④	V	Impact of labeled or unlabeled form inputs: <ul style="list-style-type: none"> - There is no input requirement to user in this page.
⑤		Impact of low contrast content: <ul style="list-style-type: none"> - Almost the whole page is white and black with strong contrast between text and its background. - Ensure readability for users
⑥		Appropriateness of page title: <ul style="list-style-type: none"> - There is h1 tag which defined the page title “Story”
⑦	V	Presence and prevalence of animation and movement: <ul style="list-style-type: none"> - Firework just show one time and disappear.

⑧	<p>Works</p> <p>+ Story (highlighted)</p> <p>+ Project</p> <p>+ Memory</p>	<p>Presence of keyboard focus indicators:</p> <ul style="list-style-type: none"> - When focus on “Story” keywords, it will turn into bold.
⑨	V	<p>Impact of other keyboard accessibility issues</p> <ul style="list-style-type: none"> - No dropdown menus. - Each section proper class name for navigation
⑩		<p>Page support for reflow and responsive design:</p> <ul style="list-style-type: none"> - 1366 × 768 - 768×1024

3.2 Project “Landscape-Hyperlink”

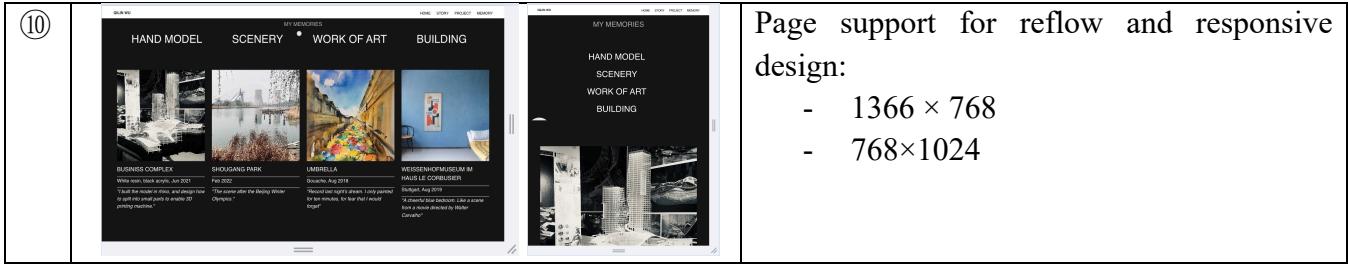
①	<pre><!DOCTYPE html> <html lang="en" data-theme="light" style="color-scheme: light;"></pre>	<p>Accuracy of the web page's defined language:</p> <ul style="list-style-type: none"> - “en” as English is defined here
②	<pre><section class="parallax-container parallax-container3"> (flex) ><div class="blackcard"> ... </div> (flex) ><div class="card"> (flex) == \$0 </div> <div class="blackcard"></div> (flex) ><div class="card"> ... </div> (flex)</pre>	<p>Appropriateness of image alternative text:</p> <ul style="list-style-type: none"> - Alt text is written for the images in this page
③	<pre><div id="root"> ><div class="top-container"> ><nav class="top-navigation"> (flex) QILIN WU ><div class="navigation-menu"> == \$0 HOME STORY PROJECT MEMORY</pre>	<p>Impact of empty links and buttons if present:</p> <ul style="list-style-type: none"> - Links in the top navigation bar all has text inside instead of empty
④	V	<p>Impact of labeled or unlabeled form inputs:</p> <ul style="list-style-type: none"> - There is no input requirement to user in this page.

⑤	 <p>Landscape Hyperlink</p> <p>Design year & Completion Year: 2020 Dec - 2021 Jun Project location: Chongqing, China Category: landscape and urban design, Rhino, grasshopper, AutoCad, Vray</p> <p>Facing Chongqing's unique natural environment surrounded by mountains and rivers, the research team tries to create an urban landscape in a high-density environment. By establishing a hyperlinked "cave-to-sky" system, the spiritual landscape of literal landscapes will be brought into the world of fireworks, from the spatial and social dimensions, resolve the above contradiction.</p>	<p>Impact of low contrast content:</p> <ul style="list-style-type: none"> - Although there are images and texts in this page. I give single color background to the texts to distinguish it from background image. - Ensure readability for users
⑥	<pre><div className='landscape'> <section className="parallax-container"> <div className="text-container"> <h1>Landscape Hyperlink</h1> <div className="introduction">
</pre>	<p>Appropriateness of page title:</p> <ul style="list-style-type: none"> - There is h1 tag which defined the page title “Landscape Hyperlink”
⑦	V	<p>Presence and prevalence of animation and movement:</p> <ul style="list-style-type: none"> - No animation for this page
⑧	 <p>HOME STORY PROJECT MEMORY</p>	<p>Presence of keyboard focus indicators:</p> <ul style="list-style-type: none"> - When focus on “Story” keywords in the top navigation bar, it has underline.
⑨	V	<p>Impact of other keyboard accessibility issues</p> <ul style="list-style-type: none"> - No dropdown menus. - Each section proper class name for navigation
⑩		<p>Page support for reflow and responsive design:</p> <ul style="list-style-type: none"> - 1366 × 768 - 768×1024

3.3 My Memory

①	<pre><!DOCTYPE html> <html lang="en" data-theme="light" style="color-scheme: light;"></pre>	<p>Accuracy of the web page's defined language:</p> <ul style="list-style-type: none"> - “en” as English is defined here
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②	<pre> </pre>	<p>Appropriateness of image alternative text:</p> <ul style="list-style-type: none"> - Alt text is written for all the images in this page
③	<pre> <div id="root"> <div class="top-container"> <nav class="top-navigation"> (flex) QILIN WU <div class="navigation-menu"> = \$0 HOME STORY PROJECT MEMORY </div> </div> </pre>	<p>Impact of empty links and buttons if present:</p> <ul style="list-style-type: none"> - Links in the top navigation bar all has text inside instead of empty
④	V	<p>Impact of labeled or unlabeled form inputs:</p> <ul style="list-style-type: none"> - There is no input requirement to user in this page.
⑤		<p>Impact of low contrast content:</p> <ul style="list-style-type: none"> - All the texts are white on the black background. - Ensure readability for users
⑥	<pre> // rendering content for the component return (<div className="nav-wrapper"> <h1>MY MEMORIES</h1> <nav> <div className="hover-this">Hand Model</div> <div>...</div> </nav> </div>) </pre>	<p>Appropriateness of page title:</p> <ul style="list-style-type: none"> - There is h1 tag which defined the page title “Landscape Hyperlink”
⑦	V	<p>Presence and prevalence of animation and movement:</p> <ul style="list-style-type: none"> - No animation for this page
⑧		<p>Presence of keyboard focus indicators:</p> <ul style="list-style-type: none"> - When focus on “Story” keywords in the top navigation bar, it has underline.
⑨	V	<p>Impact of other keyboard accessibility issues</p> <ul style="list-style-type: none"> - No dropdown menus. - Each section proper class name for navigation



Page support for reflow and responsive design:

- 1366 × 768
- 768×1024

II Write-Up

1 Description

1.1 Purpose

This personal portfolio serves as a dynamic showcase of professional abilities, projects, and memorable moments, presented in a story telling way. Its primary aim is to introduce different facets of myself effectively and vividly to the audience.

1.2 Information

- The “Story” section includes educational background, research endeavors, and acquired skills.
- The “Project” section highlights conceptualization, methodology, implementation details, prototypes, etc. for three showcased projects.
- The “Memory” section collects personal anecdotes of my handmade models, works of art, traveling moments, and records of building visits.

1.3 Interesting Features

- (1) Interactive Elements: Engaging the audience through playful interactions such as dragable boxes on the homepage and flipping banners revealing project titles before entering specific project pages. Additionally, mouse hover effects circle text categories in the memory section.
- (2) Animated Elements: Dynamic features include a typewriter effect for my name at the top left corner to say hello, and fireworks animation upon scrolling down the timeline in the story section.
- (3) Rich Content: Abundant visual content, including personal related images and videos, enriches both the projects and memories sections, enhancing the viewer's experience.

1.4 Target Audience

- (1) Research project mentor: In the next semester, when applying for workshops, projects, or research, this website can be included in my application. This provides a reference to my research interests to relevant reviewers.
- (2) Peer: Meet new friends and let partners understand my skills and strengths to facilitate future teamwork.
- (3) Recruiter: I am interested in working as a designer in the future. I can put this website link in my resume to promote myself.

2 How a User Interact with the Website

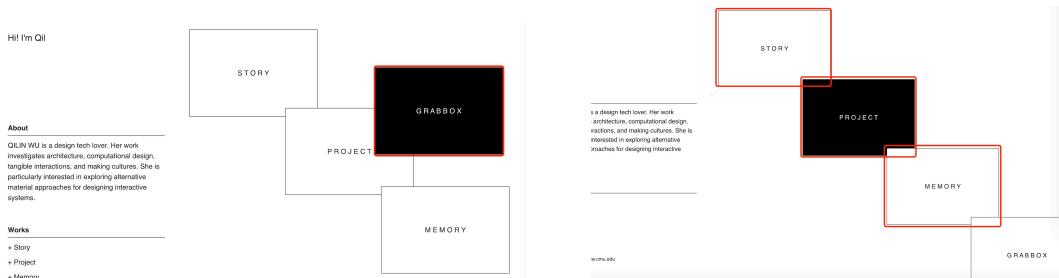


Figure 2.1 Draggable Box

① Homepage | Draggable Box

- Interaction type: pointing task (drag)
- How to reproduce it
- Drag the “GrabBox” on the right canvas and it can be moved anywhere.
- Double-click the “GrabBox” and everything will reset to its original position.
- Click on “Story”, “Project”, “Memory” will navigate to related page.

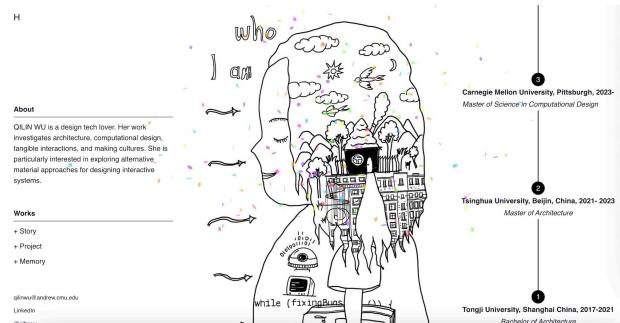


Figure 2.2 Timeline & Fireworks

② Story page | Timeline & Fireworks

- Interaction type: metaphor (scroll down the timeline)
- How to reproduce it
- Enter “Story” Page
- Scroll down, you can see the timeline turn into black and message appears.
- Once scroll to the bottom, you can see a firework blossom in this page.

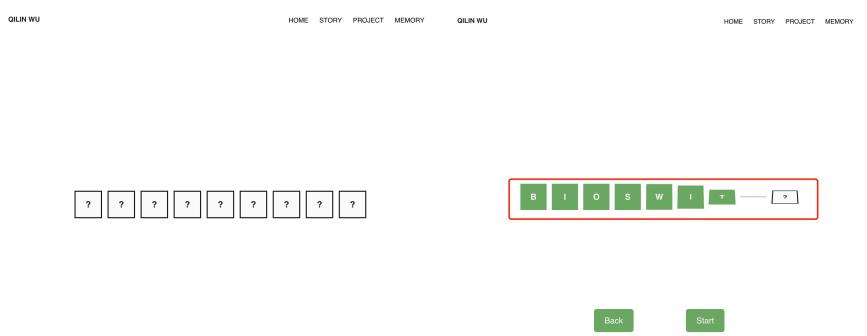


Figure 2.3 Flipping Banner

③ Project title page| Flipping Banner

- Interaction type: pointing task (click on)
- How to reproduce it
- Click on any project card and enter the project banner page.
- You see banner cards with “?” in the center of this window.
- Click on any position in this window, and the banner card flip over to show the real project title
- Click on “Play” button to see project content or “Back” button to return project menu page.

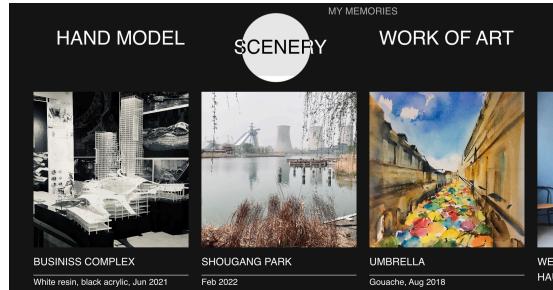


Figure 2.4 Mouse Responsive Text

④ Memory page| Mouse Responsive Text

- Interaction type: pointing task (bubble mouse, hover)
- How to reproduce it
- Hover the mouse on the top of memory page, and the four main category words will approach the mouse.
- Also, The mouse will turn into a larger circle with grey background.

3 External Tools

3.1 Tool Name: React framework & libraries (React-Draggable, React-Timeline-Animation, React-Spring/Web)

- Why you chose to use it?
I opted for React framework due to its efficiency in building dynamic user interfaces. Also, React structuring my project into reusable components, ensuring scalability and ease of maintenance. Also, react libraries have many public existing components, which make me confident to realize all the complex interactions.
- How you used it?
I utilized React framework by structuring my project. Meanwhile, I integrated React-Draggable to create playful interactions with draggable elements on the homepage and implemented React-Timeline-Animation to animate my story section, showcasing past experiences in a chronological timeline.
- What does it add to your website?

These tools significantly enhance the functionality and aesthetic appeal of my website. By leveraging React libraries, I fostered user interaction and engagement, making the browsing experience more enjoyable.

3.2 Tool Name: **Animate.css**

- Why you chose to use it?

I opted for Animate.css due to its simplicity and effectiveness in adding smooth animations to web elements without requiring complex coding. Moreover, Animate.css is lightweight and easy to integrate.

- How you used it?

I import 'animate.css' into the ProjectCard.js file, and apply its animation classes(e.g. zoomInDown, rotateInUpLeft, etc.) to specific elements(e.g. h2, h3) within my project card. I experimented with various animation effects to find the ones that best complemented my website's overall aesthetic.

- What does it add to your website?

The subtle yet captivating animations provided by Animate.css not only draw attention to key content of the project card but also convey a sense of professionalism and modernity to this page.

3 Prototype Iteration

- (1) In the low-fidelity proposal, I initially delineated three main sections: story, projects, and photo collections, along with the timeline format for my resume. I persisted with this design concept and achieved success finally.
- (2) In the high-fidelity prototype, I introduced the idea of a project banner page, but user feedback highlighted distractions caused by colorful elements. Consequently, I refined the interaction of the banner by implementing flipping cards with a single color and it works well.
- (3) Lab sessions also help me to evaluate my prototype. Though the draggable box concept emerged during my discovery of the react-draggable component, I'm not sure if there is a need to keep such less functional interaction. After presenting the initial version in the lab, positive reception and engaging discussions among classmates prompted me to retain the draggable box feature until the final iteration.

4 Challenges and Overcome

- The main challenge I encountered during the implementation of my website was managing the complexity of assets due to its extensive number of pages. This complexity led to issues with path lookup during Google Cloud deployment, prompting me to organize assets at each level meticulously.
- Additionally, I faced difficulty achieving certain functionalities, such as the scrolling timeline, which required proper positioning on the webpage and smooth interactive effects. To address this challenge, I explored React's built-in components and leveraged them to realize the envisioned features effectively.