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PUI Section A
December 8, 2023

PUI Final Project Write-Up

Test Screen Dimensions:

Web: (1541px X 1035px)

Mobile: (430 px X 932 px)

Part 1:

For my final project in PUI, I designed a dynamic website aimed at providing an immersive experience for budding photographers of all ages who wish to delve into the intricacies of manual photography.

The simulator is introduced with instructional cards that provide straightforward explanations of various features found in traditional cameras, such as aperture, shutter speed, and light meter. Users can then actively manipulate photos in real-time using these features, capturing the image they create. The simulator displays the final photo within a Polaroid-like border for a nostalgic touch. After using this website, users should be able to walk away with a foundational understanding of cameras and how to take a properly exposed picture.

The interactive simulator's intrigue lies in its hands-on approach, making the learning experience not only interesting but deeply engaging. This tool empowers users to delve into fundamental camera controls, seamlessly bridging the gap between theoretical understanding and practical application in real-world photography.

By combining intuitive, visual instructions with a responsive interface that adapts dynamically to users' photo manipulations, the simulator guarantees an interactive and educational journey. This website was designed with a primary focus on users of any age who possess limited prior camera knowledge or understanding of the science of photography, but its entertaining appeal extends to learners of all backgrounds and competencies.

Part 2:

- “Continue” Button (Cover Page)
 - Click (Direct Manipulation)
 - Click on the “continue” button to proceed to the next page
- “Continue” Button (Light Meter Instruction Page)
 - Click (Direct Manipulation)
 - Click on the “continue” button to proceed to the next page
- “Continue” Button (Shutter Speed Instruction Page)
 - Click (Direct Manipulation)
 - Click on the “continue” button to proceed to the next page
- “Continue” Button (Aperture Instruction Page)
 - Click (Direct Manipulation)
 - Click on the “continue” button to proceed to the next page
- Aperture Slider (Camera Simulator Page)
 - Slide (Direct Manipulation)
 - Slide the Aperture Slider to the left or right to either broaden or tighten the aperture
- Shutter Speed Slider (Camera Simulator Page)
 - Slide (Direct Manipulation)
 - Slide the Shutter Speed Slider to the left or right to either increase or decrease the shutter speed
- “Take the Photo!” Button (Camera Simulator Page)
 - Click (Direct Manipulation)
 - Click on the “Take the Photo!” button to proceed to the next page
- “Take another Photo” Button (Polaroid Page)
 - Click (Direct Manipulation)
 - Click on the “Take another Photo” button to be redirected back to the Camera Simulator Page
- “Instructions” Button (Polaroid Page)
 - Click (Direct Manipulation)
 - Click on the “Instruction” button to be redirected back to the Light Meter Instruction Page to re-read the instructions

Part 3:

- Kursor.JS
 - <https://lusaxweb.github.io/Kursor/>
 - This is a library that changes the appearance of the cursor from an arrow into a dot and a circle. I chose this mouse because it takes up less space on screen and covers less content on the interface I designed

- I used this library to create a new mouse to use on this website. The new mouse was customizable, but I chose to make a mouse that shows the user exactly what they're clicking on. This is especially useful when manipulating the interface I designed.
 - It adds a sense of sophistication to my website with a very small change while also increasing its usability. The mouse allows the user to easily distinguish what they are clicking on and/or manipulating.
- Polaroid.js
 - <https://github.com/tinoni/polaroid>
 - I chose this library because it has the ability to take any image and put it into a template that visually looks like a polaroid. This addition to the website communicates that the photo taken is an actual photo and not just an image on a screen.
 - I used this photo at the end of the simulator after the user takes their photo. Whatever photo that the user takes, it appears in this template to make the photo they "take" look more like a real photo rather than just a jpeg on a screen.
 - Incorporating this library into my website enhances the user experience, providing a heightened sense of immersion. It assists users in grasping that the photo they "captured" in the simulator mirrors how their actual photos would appear if they apply the lessons learned on the simulator to real-life photography.

Part 4:

In previous iterations, my instruction cards primarily relied on extensive blocks of text to explain the functions of each slider in the simulator (the intention was to design for individuals with visual disabilities by allowing accessibility with screen readers, see WAVE test in appendix).

In my latest high-fidelity Figma prototype, I've taken a more comprehensive approach. I've complemented the instruction copy with visual graphics and symbols, each containing alt text. This enhancement ensures the page's accessibility not only for those with visual impairments but also for individuals with auditory and cognitive disabilities (see WAVE test in appendix).

Within the simulator itself, I improved communication and consistency by incorporating the same symbols used in the instruction slides to describe the state the slider is in (see WAVE test in appendix).

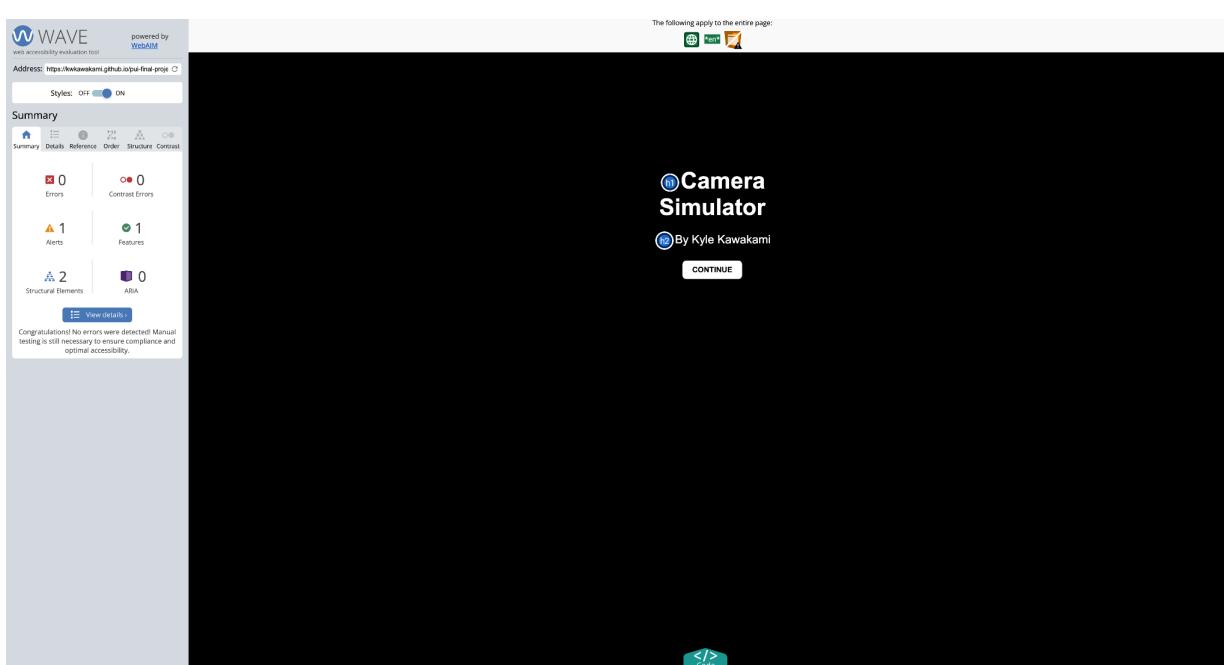
To prioritize autonomy on the final polaroid display page, I added a button to return to the simulator page (allowing users to capture another photo) and a button to revisit instructions (for users who wish to review how a camera functions again)

Part 5:

I think the hardest thing I encountered with this project was Javascript. In general, JavaScript is definitely the hardest of the three languages we learned in this class for me to write in. I had a general idea of how the simulator would work (if, else if) but implementing the feature that grabs the current img when the “take photo button” is pressed proved to be more of a challenge. I ended up coming up with the solution of storing it locally so it could be transferred between different web pages.

Appendix:

WAVE Accessibility Testing:



The following apply to the entire page:

Styles: OFF ON

Summary

Address: <https://kawakami.github.io/pu-final-project>

Styles: OFF ON

Errors: 0 Contrast Errors: 0

Alerts: 1 Features: 1

Structural Elements: 2 ARIA: 0

[View details](#)

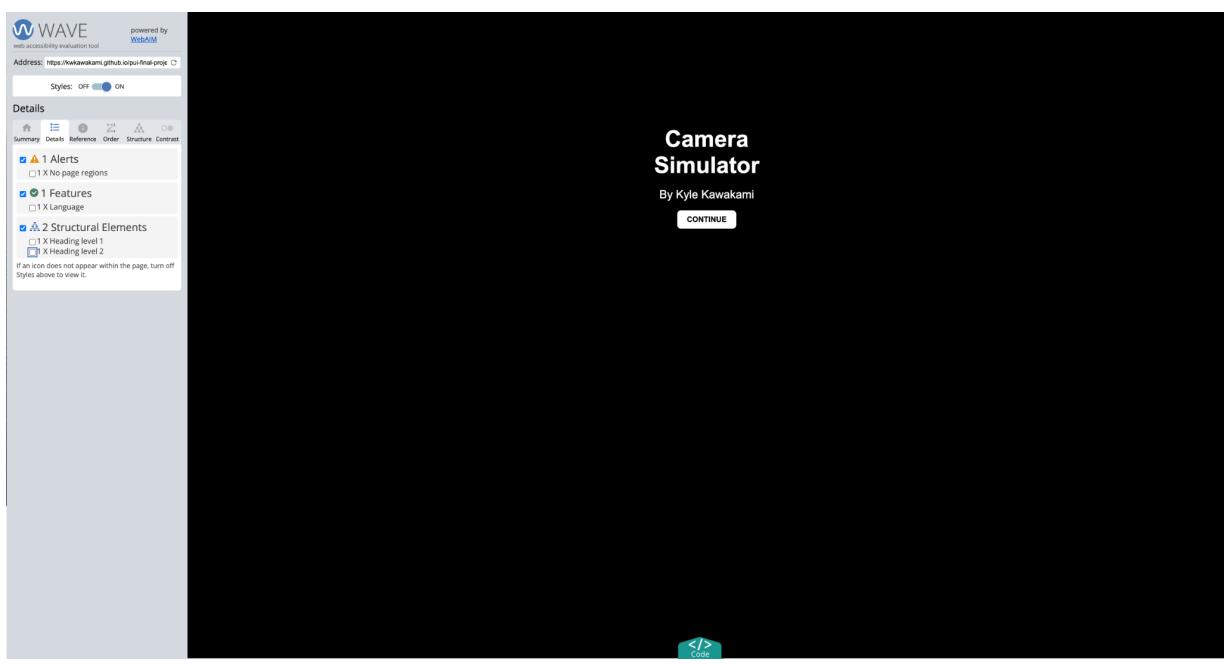
Congratulations! No errors were detected! Manual testing is still necessary to ensure compliance and optimal accessibility.

Camera Simulator

By Kyle Kawakami

CONTINUE

`</>`



Styles: OFF ON

Details

Address: <https://kawakami.github.io/pu-final-project>

Styles: OFF ON

Alerts: 1 No page regions

Features: 1 Language

Structural Elements: 2 Heading level 1, Heading level 2

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

Camera Simulator

By Kyle Kawakami

CONTINUE

`</>`

WAVE
web accessibility evaluation tool
powered by **WebAIM**

Address: <https://hkawakami.github.io/pui-final-project/>

Styles: OFF ON

Summary Details Reference Order Structure Contrast

0 Errors 0 Contrast Errors

2 Alerts 1 Features

1 Structural Elements 0 ARIA

[View details](#)

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

How The Light Meter Works

The Light Meter detects how bright or "exposed" a photo will be once taken.

Manipulating the aperture and shutter speed will move the meter and tell you how "exposed" the photo will be.

Correctly Exposed Over Exposed Under Exposed

-3...-2...-1...**0**...+1...+2...+3 -3...-2...-1...0...+1...**+2**...+3 -3...**-2**...-1...0...+1...+2...+3

meter reads 0 is a correctly exposed photo; light meter reads +2 is an over-exposed photo; light meter reads -2 is an under-exposed photo*

[CONTINUE](#)

</>
Code

WAVE
web accessibility evaluation tool
powered by **WebAIM**

Address: <https://hkawakami.github.io/pui-final-project/>

Styles: OFF ON

Details

2 Alerts

1 Features

1 Structural Elements

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

How The Light Meter Works

The Light Meter detects how bright or "exposed" a photo will be once taken.

Manipulating the aperture and shutter speed will move the meter and tell you how "exposed" the photo will be.

Correctly Exposed Over Exposed Under Exposed

-3...-2...-1...**0**...+1...+2...+3 -3...-2...-1...0...+1...**+2**...+3 -3...**-2**...-1...0...+1...+2...+3

meter reads 0 is a correctly exposed photo; light meter reads +2 is an over-exposed photo; light meter reads -2 is an under-exposed photo*

[CONTINUE](#)

</>
Code

WAVE web accessibility evaluation tool
powered by [WebAIM](#)

The following apply to the entire page:
[View Details](#)

Address: [4anithmshutterSpeedInstructions.html](#)

Styles: OFF ON

Summary [Details](#) [Reference](#) [Order](#) [Structure](#) [Contrast](#)

Errors: 0 Contrast Errors: 0

Alerts: 2 Features: 1

Structural Elements: 1 ARIA: 0

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

View details

How Shutter Speed Works



1/1000th of a second
1/60th of a second
1/2 a second

[View Details](#)

Shutter Speed is how quickly the shutter in the camera opens and closes.
By changing the shutter speed, it can create a clearer photo for a moving subject.

[CONTINUE](#)

</> Code

WAVE web accessibility evaluation tool
powered by [WebAIM](#)

The following apply to the entire page:
[View Details](#)

Address: [https://raw.githubusercontent.com/4anithmshutterSpeedInstructions.html](#)

Styles: OFF ON

Summary [Details](#) [Reference](#) [Order](#) [Structure](#) [Contrast](#)

Alerts: 2 Long alternative text: 1 No page regions: 1

Features: 1 X Language: 1

Structural Elements: 1 X Heading level 1: 1

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

How Shutter Speed Works



1/1000th of a second
1/60th of a second
1/2 a second

Shutter Speed is how quickly the shutter in the camera opens and closes.
By changing the shutter speed, it can create a clearer photo for a moving subject.

[CONTINUE](#)

</> Code

The following apply to the entire page:

Style: OFF ON

powered by [WebAIM](#)

Address: <https://kawakami.github.io/jpui-final-project/>

Summary

Errors: 0 Contrast Errors: 0

Alerts: 2 Features: 1

Structural Elements: 1 ARIA: 0

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

How Aperture Works



The aperture is what decides how much light enters the camera.
By changing the size of the aperture, it can blur or focus the background of a photo.



Aperture causes a focused background; medium aperture causes a slightly blurred background; large aperture causes a blurred background.

[Email](#) [Code](#)

[CONTINUE](#)

<https://wave.webaim.org>

The following apply to the entire page:

Style: OFF ON

powered by [WebAIM](#)

Address: <https://kawakami.github.io/jpui-final-project/>

Details

Alerts: 2 Long alternative test: 1 X Long alternative test, 1 X No page regions

Features: 1 Language: 1 X Language

Structural Elements: 1 Heading level 1: 1 X Heading level 1

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

How Aperture Works



The aperture is what decides how much light enters the camera.
By changing the size of the aperture, it can blur or focus the background of a photo.



Aperture causes a focused background; medium aperture causes a slightly blurred background; large aperture causes a blurred background.

Small Aperture causes a focused background; medium aperture causes a slightly blurred background; large aperture causes a blurred background.

Medium Aperture causes a focused background; medium aperture causes a slightly blurred background; large aperture causes a blurred background.

Large Aperture causes a blurred background; medium aperture causes a slightly blurred background; large aperture causes a blurred background.

[Email](#) [Code](#)

[CONTINUE](#)

WAVE
web accessibility evaluation tool
powered by [WebAIM](#)

Address: <https://kawakami.github.io/pui-final-project>

Styles: OFF ON

Summary Details Reference Order Structure Contrast

Errors: 0 Contrast Errors: 0

Alerts: 2 Features: 8

Structural Elements: 6 ARIA: 0

[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://kawakami.github.io/pui-final-project>

Styles: OFF ON

Details

Alerts: 2

- No page regions
- Skipped heading level

Features: 8

- Alternative text
- Form field
- Language

Structural Elements: 6

- Heading level 1
- Heading level 3

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

The following apply to the entire page:

WAVE
web accessibility evaluation tool

powered by
WAVEAM

Address: <https://wkawakami.github.io/pu-final-project>

Styles: OFF ON

Summary

Category	Count
Errors	0
Contrast Errors	0
Alerts	2
Features	2
Structural Elements	0
ARIA	0

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

View details

The photo you took now framed in a polaroid border

Take Another Photo Instructions

WAVE
web accessibility evaluation tool

powered by
WAVEAM

Address: <https://wkawakami.github.io/pu-final-project>

Styles: OFF ON

Details

Alerts

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

Features

- 1 X Alternative text
- 1 X Language

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

The photo you took now framed in a polaroid border

Take Another Photo Instructions

Prototype:

Aperture

All Cameras can manipulate photos through two main features: the aperture and the shutter speed.

The aperture of a camera is similar to the eyelids for the eyes. The user of a camera can adjust how open or closed the camera's lens is to change the "depth of field" in the photo. By opening the aperture wide, the camera will take on a larger depth of field due to more light entering the camera. This will brighten the photo and place all of the objects in the photo in focus. By closing the aperture will give the photo a "shallow depth of field" which creates a blurry background and only the foreground (subject) will be in focus.

Play around with the aperture and see its effects! Once done playing with Aperture we'll move on to shutter speed.

[Proceed to Aperture](#)

Under Exposed Over Exposed

-3...2...1...0...1...2...3

Shutter Speed

Take Photo

Take Another Photo Done

Final Design Web (1541px X 1035px):

How the Light Meter Works

The Light Meter detects how bright or "exposed" a photo will be once taken.

Manipulating the aperture and shutter speed will move the meter and tell you how "exposed" the photo will be.

[Continue to Simulator](#)

How Shutter Speed Works

Shutter Speed is how quickly the shutter in the camera opens and closes.

By changing the shutter speed, it can create a clearer photo for a moving subject.

[Continue to Simulator](#)

How Aperture Works

The aperture is what decides how much light enters the camera.

By changing the size of the aperture, it can blur or focus the background of a photo.

[Proceed to Shutter Speed](#)

Aperture Light Meter Shutter Speed

Shutter Button

1/1000th of a second 1/60th of a second 1/2 of a second

[Take Another Photo](#) [Done](#)

Final Design Mobile (430 px X 932 px):

How Shutter Speed Works



1/1000th of a second 1/60th of a second 1/2 a second

Shutter Speed is how quickly the shutter in the camera opens and closes.

By changing the shutter speed, it can create a clearer photo for a moving subject.

[CONTINUE](#)

How Aperture Works



The aperture is what decides how much light enters the camera.

By changing the size of the aperture, it can blur or focus the background of a photo.

[CONTINUE](#)

How The Light Meter Works



The Light Meter detects how bright or "exposed" a photo will be once taken.

Manipulating the aperture and shutter speed will move the meter and tell you how "exposed" the photo will be.

CONTINUE



Aperture

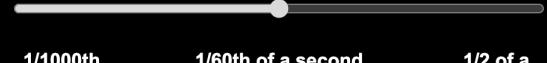


Light Meter

-3 .. -2 .. -1 .. 0 .. +1 .. +2 .. +3

Take The Photo!

Shutter Speed



1/1000th
of a
second

1/60th of a second

1/2 of a
second



[Take Another Photo](#)

[Instructions](#)