

Initial problems with webpage diagnosed by WAVE:

- 'Home' and 'Links' images missing alternative text
- 5 missing form labels
- Low Contrast between text and background colors
- No heading structure
- No page Regions
- Redundant links
- Positive Tabindex value

Problems:

1. Headings

- a. Description: No Headings are Present in the HTML
- b. Estimated Severity: Very, without headings it can be difficult for accessibility tools to cleanly move through the file
- c. How to Fix: Made the banner the main header and the "links" and "sign-up" div secondary headers

```
<h1>  
<div id="accessibilitybanner"></div>  
</h1>
```

```
<h2>  
<div id="signup" class="heading2">Sign Up!</div>  
</h2>
```

```
<h2>  
<div id="links" class="heading2">Links</div>  
</h2>
```

- d. Detected by Automatic Evaluator: Yes

2. Alternative Text for Images

- a. Description: "Pics" "Home" and "Links" Button lack Alternative Text
- b. Estimated Severity: Mild. Without the text, the Website is still navigable, if somewhat awkward.
- c. How to Fix: Add the "alt" tag to each of the image with the relevant information written in

```
<a href="#home"></a>  
<a href="#links"></a>  
<a href="#signup"></a>
```

- d. Detected by Automatic Evaluator: Yes

3. Form Labels

- a. Description: Each form entry under "Sign Up!" lack a form label
- b. Estimated Severity: Very, a user with sight impairment would have a difficult time using the Sign up function of the website, which is very important in the use of the website
- c. How to Fix: Add labels to each of the forms, replacing any old, non-label text

```

<label for="comment">Comment:</label><br>
<textarea id = "comment" rows="5" cols="40"></textarea>

<label for="em">Email:</label><br>
<input id="em" name="em" type="text" size="20">

<span id="name">Name:</span>
<p></p>
<label for="fn">First Name:</label><br>

<input name="fn" type="text" size="10" id="fn">
<p></p>
<label for="mi">Middle Name:</label><br>

<input name="mi" type="text" size="1" id="mi">.
<p></p>
<label for="ln">Last Name:</label><br>

<input name="ln" type="text" size="10" id="ln">

```

- d. Detected by Automatic Evaluator: Yes
- 4. Form Widgets Without Semantics
 - a. Description: The spam sign-up box and the videoplayer are both simply listed as divs, without the proper context behind them
 - b. Estimated Severity: Mild, the lack of clearly defined role could introduce confusion for screen readers.
 - c. How to Fix: Add a role to both of the buttons, marking them.

```

<div role = "button" id="receivespambutton">
...
<div role = "button" id="videoplayer">

```

- d. Detected by Automatic Evaluator:
- 5. Video Captions
 - a. Description: Video lacks video captioning
 - b. Estimated Severity: Severe, for those with hearing impairment, the video is totally inaccessible.
 - c. How to Fix: Upload video to youtube, generate captions, then embed video into the website

```

<iframe width="420" height="315"
src="https://www.youtube.com/embed/ZG3C8wGyCnc" allowfullscreen>
</iframe>

```

- d. Detected by Automatic Evaluator: No
- 6. Audio Descriptions
 - a. Description: Embedded video does not contain audio description of the graph which is shown
 - b. Estimated Severity: Somewhat, while the video can still be understood without the graph, important context is lost to the listener

- c. How to Fix: Add an additional couple seconds to the beginning of the video and add a tts track giving an audio description
 - d. Detected by Automatic Evaluator: No
- 7. Tab Order & Visible Focus
 - a. Description: The video is marked with "tabindex =5" which messes up the flow of the website, the checkmark and play buttons are not being properly tabbed through. Additionally, the top row is non-accessible as they are not being outlined
 - b. Estimated Severity: Severe, the user cannot properly tab index through the website
 - c. How to Fix: Remove the tabindex marking on the video, add tabindex to the checkmark div, change outline color to black for navigation.

```
.navigation a {  
  outline: 1px solid black, 1px solid black;  
}
```

```
<div role = "button" tabindex=0 id="receivespambutton">
```

- d. Detected by Automatic Evaluator: Yes
- 8. Color Contrast
 - a. Description: All of the text for the links are low contrast, a light gray against a white background. The Sign up forms also initially had this issue but were fixed in replacing the markings with form labels.
 - b. Estimated Severity: Somewhat, this makes traversal through the website difficult for those with either poor eyesight or poor color differentiation.
 - c. How to Fix: Change the font color to be of greater contrast. In this case change the color of a in css to black

```
a {  
  text-decoration: none;  
  color: black;  
}
```

- d. Detected by Automatic Evaluator: Yes
- 9. Keyboard Access
 - a. Description: The checkmark box for spam is unable to be clicked outside of a mousepress
 - b. Estimated Severity: Severe, this totally locks some users out of this button's functionality.
 - c. How to Fix: Add javascript function checking keydown instead of just keypress

```
$("#receivespambutton").keydown(function() {
    if($("#receivespambutton").children()[0].attr("src")=="pics/unchecked.png") {
        $("#receivespambutton").children()[0].attr("src","pics/checked.png");
        $("#spamyn").val("y");
    } else {
        $("#receivespambutton").children()[0].attr("src","pics/unchecked.png");
        $("#spamyn").val("n");
    }
});
```

d. Detected by Automatic Evaluator: No

10. Information Conveyed only Via Color

- Description: In case of sign-up failure due to a lack of name provided, the only indication of the error is changing the color of the "Name" text
- Estimated Severity: Severe, this error can potentially affect a wide variety of users— anyone who is unable to differentiate colors, or otherwise has other visual impairments will be unable to tell the cause of their error sign-up
- How to Fix: Create a pop-up message explaining that a form needs to be filled in.

```
if($("#fn").val()=="" || $("#mi").val()=="" || $("#ln").val()=="") {
    $("#name").addClass("error");
    alert("Please fill out all name fields before signing up");
    return;
} else {
    $("#name").removeClass("error");
}

if($("#em").val()=="") {
    $("#email").addClass("error");
    alert("Please fill out the email field before signing up");
    return;
}
```

d. Detected by Automatic Evaluator: No

MISC ADDITIONAL ISSUES:

11. Invalid Link

- Description: Link did not have any corresponding text, making it an empty link
- Estimated Severity: severe, An empty link means that the feature is accessible to no user.
- How to Fix: Add a link

```
&nbsp;<a href="https://www.barnardhci.com"> barnardhci</a><br>
&nbsp;<a href="https://www.hamilton.edu/offices/dos/accessibility/Disability_Services_at_Hamilton">Accessibility Research at Hamilton</a><br>
```

d. Detected by Automatic Evaluator: Yes

12. Language Indicator

- Description: There is no language indication at the beginning of the html document
- Estimated Severity: Mild
- How to Fix: add a language indication

```
<html lang="en">
```

d. Detected by Automatic Evaluator: Yes