



# Web Accessibility Checklist

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## Project Scope

The Website Accessibility Checklist (WAC) was created to help its users determine how accessible a website is.

Users will provide “yes,” “no,” and “n/a” answers to each question in the questionnaire.

User responses will be stored temporarily in order to compute the necessary calculations to determine the score. But results and responses will not be saved long-term. This means that the only data storage in this program will be for the questions and related content.

Accessibility score will be calculated based on the user’s answer. Accessibility tips will be provided to the user to assist them in improving their websites accessibility.

# User Stories

1. As a software developer, I want to conduct testing as I develop my website to ensure that it is accessible to users of all capabilities. This will allow me to test my design over time and evaluate changes over time.
2. As a tester, I want a quantitative way to evaluate the usability and accessibility of a website.
3. As a user, I want to be able to evaluate a website without any prior knowledge about preferred practice of web development.





## Pages of this Application

1. *User Input Screen (Home Page)*: the questions will be presented with hints available.  
The user can answer the questionnaire here.
2. *Results Screen*: presents the user with their website accessibility score and an idea of how good that score is. The user will also be presented with tips to improve their website accessibility.
3. *User Manual*: gives the user information about using the website accessibility checklist.

# Home Page

Accessibility Checklist

Hover over ? for a hint

1. If there is non-text content, are there text alternatives that are available to the user? ?

☐ Yes ☐ No ☒ N/A

2. If there is timed-based media, is there a text description above or below it explaining its contents? ?

☐ Yes ☐ No ☒ N/A

3. If a non-text content invokes user input, is there an explanation provided in the the form of text to explain what is needed from the user to continue? ?

☐ Yes ☐ No ☒ N/A

14. If there are abbreviations, is the expanded form provided at least once? ?

An example of an abbreviation is 'USA', which stands for the 'United States of America'. If the abbreviation that is used is not common, then providing the elongated version of the abbreviation would be helpful to your users to understand where you're coming from.

16. Are all the navigation settings written the same way on each page and placed in similar locations from page to page? ?

☐ Yes ☐ No ☒ N/A

17. Is correct information provided that the user can use to reach out to customer service? ?

☐ Yes ☐ No ☒ N/A

20. In content implemented using markup languages, elements have complete start and end tags? ?

☐ Yes ☐ No ☒ N/A

21. In content implemented using markup languages, do no elements contain duplicate attributes? ?

☐ Yes ☐ No ☒ N/A

22. In content implemented using markup languages, all IDs are unique, except where the specifications allow these features? ?

☐ Yes ☐ No ☒ N/A

23. Does all media content have an alternative attribute? ?

☐ Yes ☐ No ☒ N/A

Submit

Clear



# Results Page

[Help Manual](#)

## Accessibility Checklist

**ACCESSIBILITY SCORE: 83%**

**ACCESSIBILITY RATING: EXCELLENT**

BAD	FAIR	GOOD	GREAT	EXCELLENT
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### ACCESSIBILITY TIPS

1. Being able to resize helps users who are unable to see well. This helps them read all the information on the screen to their preferences. You are able to implement this feature many different ways. One way to resize is to use the icon with three dots in one column in the top right corner of your screen. If you click on it, there is a section where you can resize the font size. The information needs to stay consistent between the different fonts.
2. A customer service section can be useful for users to acquire more information or clarification. The customer service information contains an email and phone number. Most customer service information is provided at the bottom of the main page and can be accessed from the navigation settings at the top of every page but it's up to you.

[Home](#)



# Manual Page

## Accessibility Checklist

### User Manual

The Website Accessibility Checklist (WAC) was created to help its users determine how accessible a website is. On the home page, there is a questionnaire, and each question on the questionnaire has three potential answers: yes, no, and n/a. By answering these questions for a target website, you can evaluate its accessibility.

First, answer every question on the home page with yes, no, or n/a. Questions given the n/a answer are not used in the website evaluation.

If you are confused or want more information about a question, you can hover over the question mark icon that is at the end of each question. This will reveal a hint that elaborates the question.

When you are finished answering questions, click the submit button. You will be redirected to the results page where you will receive the target's: accessibility score as a percentage and their accessibility rank as text and on a scale.

For questions that were given a no answer, tips for improving the target's accessibility will be provided. You can implement these tips and complete the questionnaire to get a new score!

Home

# Mobile Website

7:57 10.0.0.126:8080/accessibility

Help Manual

## Accessibility Checklist

Hover over ? for a hint

1. If there is non-text content, are there text alternatives that are available to the user? ?  
☐ Yes ☐ No ☒ N/A
2. If there is timed-based media, is there a text description above or below it explaining its contents? ?  
☐ Yes ☐ No ☒ N/A
3. If a non-text content invokes user input, is there an explanation provided in the form of text to explain what is...

time-based media, are you able to pause/unpause and change the audio settings? ?  
☐ Yes ☐ No ☒ N/A

6. Are the colors used a good contrast from one another so that everything can be easily read and seen? ?

One good contrast combination is a white background and black text. The combination of colors can range but the goal is to make sure that all the information on the page is readable.

8. Is your keyboard able to access everything on the page and navigate it well? ?  
☐ Yes ☐ No ☒ N/A

9. If the page you are on...

21. In content implemented using markup languages, do no elements contain duplicate attributes? ?  
☐ Yes ☐ No ☒ N/A

22. In content implemented using markup languages, all IDs are unique, except where the specifications allow these features? ?  
☐ Yes ☐ No ☒ N/A

23. Does all media content have an alternative attribute? ?  
☐ Yes ☐ No ☒ N/A

Submit Clear

Home

7:58 10.0.0.126:8080/accessibility

Help Manual

## Accessibility Checklist

ACCESSIBILITY SCORE: 36%

ACCESSIBILITY RATING: FAIR

ACCESSIBILITY TIPS

1. Error messages help the user notice if they have entered any invalid information and provide them an opportunity to fix it. The message needs to be straight to the point and needs to be noticeable. For noticeable, maybe putting the error message in red and placing it in the middle of the page will...
3. In many markup languages, errors can occur if elements have duplicate attributes. Make sure to specify each element correctly and initialize them only once. For example element  $x = 0$  is initialized but so is  $x = 2$ ,  $x$  may not be able to be both 0 and 2 at once, make sure to change one or the other to fit your software. Example result:  $x = 0$ ,  $y = 2$ .
4. Add alternative attributes to all media tags.

elements are complete, example: starting bracket [ ' and ending bracket ' ]

Home

Manual

7:57 10.0.0.126:8080/accessibility

Help Manual

## Accessibility Checklist

User Manual

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First, answer every question on the home page with yes, no, or n/a. Questions given the n/a

This will reveal a hint that elaborates the question.

When you are finished answering questions, click the submit button. You will be redirected to the results page where you will receive the target's: accessibility score as a percentage and their accessibility rank as text and on a scale.

For questions that were given a no answer, tips for improving the target's accessibility will be provided. You can implement these tips and complete the questionnaire to get a new score!

Home

Results



# JSON File Examples - Question Weighting

```
{ } questions.json > ...
{
  "1": {
    "content": "If there is non-text content, are there text alternatives that are available to the user?",
    "weight": 4,
    "hint": "Some examples of non-text content are graphs, charts, pictures, art, videos, etc. They are a visual representation of information.",
    "tip": "Adding text alternatives to non-text content is important so that all users have the opportunity to understand the information.",
  },
  "2": {
    "content": "If there is timed-based media, is there a text description above or below it explaining its contents?",
    "weight": 4,
    "hint": "Some examples of timed-based media would be videos, clips, films/movies, etc. A real life example of a text description would be a video of a person speaking with a text description of what they are saying.",
    "tip": "Using text descriptions help provide an overview of the time-based media. The descriptions are usually straightforward and easy to understand.",
  },
  "3": {
    "content": "If a non-text content invokes user input, is there an explanation provided in the the form of text to explain what is required?",
    "weight": 3,
    "hint": "Some examples of non-text content are graphs, charts, pictures, art, videos, etc. An example of this would be when playing a video game where the user is required to click on a specific object.",
    "tip": "If the non-text content requires user input, adding text in the form of a question or explanation can elevate any confusion and help the user understand what is required.",
  },
  "4": {
    "content": "If there is non-text content, are there text alternatives that are available to the user?",
    "weight": 4,
    "hint": "Some examples of non-text content are graphs, charts, pictures, art, videos, etc. They are a visual representation of information.",
    "tip": "Adding text alternatives to non-text content is important so that all users have the opportunity to understand the information.",
  },
}
```

# Functional Testing Results

Test ID	Description/Input/Category	Purpose	Expected Result	Actual Result	Pass/Fail
3.5.1 Unit Testing					
1.1	json file cannot be found at path	Ensure that the Question.QUESTIONS = null when a valid json cannot be found at path.	question.QUESTIONS = null	question.QUESTIONS = null	Pass - JD
1.2	json file is found at path that does not have the database format (See Section 2.4 of the UI Design Document)	Ensure that the Question.QUESTIONS = null when a valid json cannot be found at path.	question.QUESTIONS = null	question.QUESTIONS = null	Pass - JD
1.3	json file is found at path that has the database format (See Section 2.4 of the UI Design Document)	Ensure that the content of Question.QUESTIONS matches the content of a valid json file at path when read.	question.QUESTIONS = { "1": {"content": "1", "weight": 1, "hint": "1", "tip": "1"}, "2": {"content": "2", "weight": 2, "hint": "2", "tip": "2"}, "3": {"content": "3", "weight": 3, "hint": "3", "tip": "3"} }	question.QUESTIONS = { "1": {"content": "1", "weight": 1, "hint": "1", "tip": "1"}, "2": {"content": "2", "weight": 2, "hint": "2", "tip": "2"}, "3": {"content": "3", "weight": 3, "hint": "3", "tip": "3"} }	Pass - JD
2.1.1	Question.QUESTIONS = {}	Ensure that Question objects are not made when there are no questions in Question.QUESTIONS.	questions = {}	questions = null	Fail - JD
2.1.2	Question.QUESTIONS = {}	Ensure that Question objects	questions = {}	questions = {}	Pass - JD

3.5.2 Integration Testing					
11	Navigation 1. Click Submit 2. Click Home 3. Click Help Manual 4. Click Home	To ensure that navigation between web pages is functional	Navigation is possible through all web pages	Navigation works properly through all webpages	Pass - JM
12	Hint Display Hover over a hint circle	Tests that hints do display when hovered over	Placeholder hints are displayed when hovered over	Hints do display	Pass - JM
13	Questions Select yes/no/na on all stub questions	Tests that stub questions are visible in the software	Placeholder questions are be loaded and visible	Selections work on all available questions	Pass - JM
14	Score Output Click submit on the questionnaire	Makes sure that the score calculator and displays correctly	The output screen shows the calculated score	Submit button works and displays score	Pass - JM
15	Score Bar Click submit on the questionnaire	Score bar should display as a percentage using the score	The score bar is the correct length	Score Bar works after submission	Pass - JM
16	Tips Output Click submit on the questionnaire	Tests that stub tips display for the correct questions.	Placeholder accessibility tips display	Tips display for no questions	Pass - JM
17	Question Content Load the test webpage	This ensures that questions from the full database load into the software	All questions from the database are loaded and visible	All questions do display	Pass - JM
18	Hint Content Hover over a hint circle	Ensures that hints from the database load when a hint is hovered over	All question hints appear when hovered over	Every distinct hint does appear	Pass - JM

# Non-Functional Testing Results

28.1	<b>Performance Testing</b> Browser must load the page within 5 seconds.	To ensure that the website is fast enough to ensure usability.	T < 5	T = 0.92 sec	Pass - JS
28.2	Time between submitting the questionnaire and displaying the results must be less than 5 seconds.	To ensure that the website is processing fast enough to ensure usability.	T < 5	T = 0.83 sec	Pass - JS
28.3	Expected test metrics should be met as long as the number of questions in the questionnaire is less than or equal to 25.	To make sure that the checklist isn't too long and overwhelming for the user.	Q < 25	There are only 23 questions.	Pass - EB

28.4.1	Average time spent answering questions on the questionnaire must be less than 15 minutes.	To ensure that the checklist is easy to use and provides only the essential information	Time for each question is less than 15 sec.	Total time to answer all questions including viewing necessary hints.  Trial 1: 2.76 min Time/question: 6.9 sec	Pass - JS
28.4.2				Trial 2: 1.43 min Time/question: 3.58 sec	Pass - JS
28.4.3				Trial 3: 2.12 min Time/question: 5.3 sec	Pass - JS
28.4.4				Trial 4: 2.69 min Time/question: 6.72 sec	Pass - JS
29.1	<b>Alpha/Beta Testing</b> Press yes, no, or NA to all questions, and press submit.	To finalize and ensure the complete functionality of the software after all changes have been made.	After answering all questions and pressing submit, a score is provided with tips in order to improve the website.	After answering all questions and pressing submit, a score is provided with tips in order to improve the website.	Pass - TW
29.2				This test was conducted by an exterior end user.	Pass - JS
29.3				This test was conducted by an exterior end user.	Pass - JS
29.4				This test was conducted by an exterior end user.	Pass - JS
29.5				This test was conducted by an exterior end user.	Pass - JS



# Thanks! Questions?

Live Demonstration...