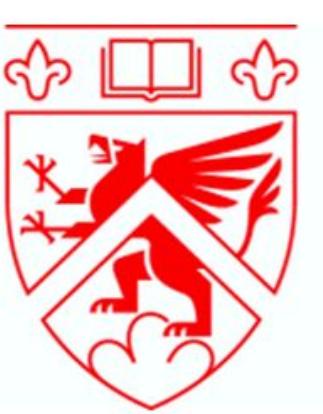


Making a Website Accessible for People with Visual Impairment

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Background

The web plays a major role in different parts of people's lives, which might include healthcare, education, government, and many other areas. As a result, it is important that people with disabilities are provided with an equal opportunity and have equal access to a website. A web developer should know that it is extremely important to make sure that the web is accessible for everyone. When building a website a developer should always remember that certain people might have difficulties viewing the site. Therefore, a developer should build a site without excluding people who have disabilities.

Web Content Accessibility Guidelines (WCAG) was developed through the World Wide Web Consortium. These guidelines are primarily intended for web content developers, authoring tool developers, web accessibility evaluation tool developers and others who need these standards to build a site.

Purpose

What technologies can be used to create a website that is as accessible by visually impaired people as it is by people without any disabilities?

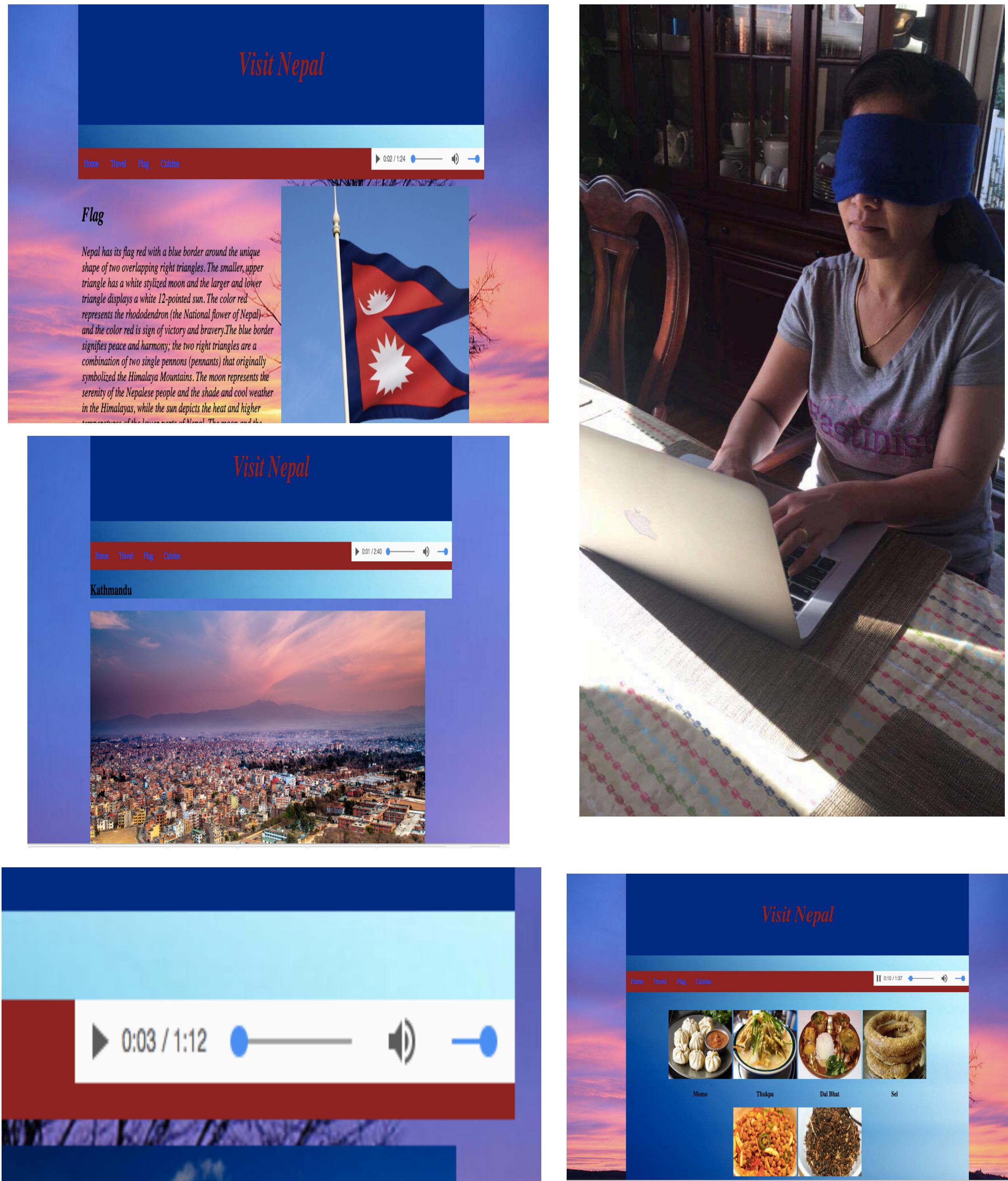
Method & Procedure

As a part of the research procedure, the website that was built followed the guidelines provided by WCAG for people with disabilities. Then, the website was tested on two different groups, one without the ability to see and the other with full visual capabilities. Finally, a survey was taken by members of both groups and the results of this survey were used to draw conclusions about the quality of the user experience and the information afforded by the website to the members of the two groups. The participants during this project were given a survey questions. Part of the survey question was to rate their experience of using the website from 1 to 4 with Very Accessible being 4 and Not Accessible being 1. If something were not applicable then they would select Not Applicable.

Instrumentation

In order to build the website, some of the tools used were sublime text, which is a text editor for web designers. For audio, a text-to-speech converter was used from a website called fromtexttospeech.com, in order to create the audio files to transcribe all of the content within the webpages of the website as well as to provide audio directions for navigation. All of the tests were performed on the subjects using a 2014 MacBook Air. The web browser that was used to test the website was Google Chrome. Keeping the computer and the browser the same for all participants ensured that there was no error in the results that was born out of differences in the instrumentation.

Images of the Website



Results

Overall, the results of the survey by the two groups were very similar. All of the scores of 'Overall Experience', and 'Navigation' was identical, where every member from both groups rated the website a 4, or 'Very Accessible', in those two categories. However, there were some differences between the other categories, and the differences in scores from the two groups show that. Here is a table that was used to rate the experience that also includes the results.

Combined result for the survey:

Participant	Navigation	Sound	Text	Images	Overall Experience
Group A Person 1	4	4	3	2	4
Group A Person 2	4	4	3	2	4
Group A Person 3	4	4	4	4	4
Group B Person 1	4	4	4	4	4
Group B Person 2	4	3	4	4	4
Group B Person 3	4	3	3	3	4

Future Research

The research could be carried further by including other groups of disabled people and not just those that are visually impaired. Another way of furthering the research would be to build many different ways of getting the same information to the different groups of people instead of just visual and auditory. Then, an analysis could be performed on the different methods to get the information to different people and determine which methods prove to be the most effective.

Bibliography

Henry, S.L. (2005 February). Web Accessibility Initiative (WAI). Retrieved March 21.2016, from <https://www.w3.org/WAI/>