Providing accessibility for dynamic content

If our target audience for the application are socially active persons which are in need to discover new music, that doesn't mean that we do not have to cater to a wider range of potential users, including persons with disabilities.

In aiding us in providing an application with is usable by people with varying degrees of technical skills and accessibility, we've decided to use a wide range of freely available tools to best help us in troubleshooting any issues that might be present in the application. These tools measure how many issues the markup of the page contains, and gives pointers as to how to solve them.

The preliminary results of the accessibility tests results revealed that there were a number of problems with the elements in the page, some easier to fix than others.

The most obvious issues were displaying an alternate text for some of the static images in the page using in various interactive elements (playback buttons, song menu buttons etc.). These required to real effort, as it simply involved altering some of the static elements to provide better naming and localisation to the elements.

The more problematic issue was how to add context to dynamic pages. As the application relies heavily on generating and displaying dynamic content to the user, it is difficult to provide metadata information to some elements which is relevant to the content being generated.

One issue which was addressed involving dynamic content was how we generate and display songs, be it in search session, playlist management etc. We were successful in adding metadata information to these elements, by adding alternate text to the images used to display album art. They now embed various relevant information regarding the content being displayed, such as song title, artist name, album name and so on, to provide context to the users which cannot see images but can still access them.

Another problematic area regarding accessibility was how we provide better organisation of information to users which cannot fully utilise some of the graphical elements in the application, such as 3D pages. As the website relies heavily on 3D elements to organize information, it was a challenge to devise a way to provide the same functionality to those who cannot use these elements.

We've partially solved this issue by using nested naming of the various elements in the page, where the labels used on containers and labels provided a hierarchical representation of the data in the application. For example, one top-down traversal of one branch of the tree would be to start at the search section, traversing down into a particular search session, then into a search category, then finally into a song that was searched for (with the possibility to further extend to a secondary song).

This way of organizing information provided a better way to understand the data which is displayed on the page to those who cannot use the primary graphical methods of displaying

content.

After solving these issues, most of the accessibility problems related to dynamic content were fixed. All that remained was to provide the user with a better context as to where in the application he is currently situated.

As the application itself is a SPA (single page application), the only way to solve the navigation and localised context issue was to use the same hierarchical representation of pages previously used for organizing information without 3D elements.

Considering that the SPA is organized in different sections, we ended up using this abstraction to tell the user where exactly he was at any given time in the application. This involved properly labeling the menu header option and sections. At this stage a minimum amount of non-critical errors were reported by the accessibility tools, and we felt that the application was in a stage that could be used by people with various disabilities and varying technical skills.

The most difficult task in providing accessibility was finding a way to provide metadata and context information to dynamic content, as it must be relevant enough to not confuse the user.