Sprint Zero Return Brief

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August 5, 2013

Return Brief

Our team plans to implement a web based application that allows users to evaluate HTML5 files and entire website structures. This brief was provided by Lorna MacDonald, the course co-ordinator of the UQ course DECO1400. Specifically, this application will be utilised by the students of that course, providing them with an application to check the validity of their files. This external factor, however, will have little bearing on our final product, as Lorna has allowed us freedom in how we choose to implement her specification. This application aims to provide an easy way for students to check their code quickly and efficiently, and the web application allows for this capability to be platform independent.

The application will analyse the content of individual pages and determine how closely the file's style conforms to "best practice" criteria. The common issues this program will check for are:

- Structural / syntactical
  - Multiple instances of singular tags - html, head, body, footer
  - Incorrect page structure (html, head, body, footer - where tags are missing or in the wrong order)
  - Form elements not being contained in a form object
  - Failure to close tags that require a closing tag

  - Incorrect nesting of tags - resulting in overlapping html tags
  - Incorrect table structures - cells not in rows, different numbers of cells in rows where colspans are not specified
  - Missing title tag in head
  - Missing required attributes (src for img, href or name for a, href for link etc)
  - Use of short tags - self-closing tags not having forward slash
  - Use of PHP in a html file (that is, not using php extension)
  - Form elements
    * incorrect or misspelt type attributes for inputs
    * missing value attributes,
    * radio inputs with the same id,
    * inputs missing name attribute - causes issues when accessing via JavaScript or PHP

- Deprecated elements:
  - Use of frames
  - Use of deprecated, presentational tags (b, i, small etc)

- Accessibility:
  - Form elements not having labels
  - Missing alt tags on images - accessibility standards not followed

- Poor practice/Miscellaneous:
  - Using tables for layout
  - Semantic issues - multiple H1's, incorrect use of headings
  - Multiple elements with the same value for the id attribute - causes issues when they begin to work with JavaScript and the DOM.
  - Special characters used or non-ASCII character used.

Users can also upload zipped files of entire websites that the application checks for whether the files have been linked correctly in the HTML files. The application should be able to recognise:

- Incorrect linking to local files - images, CSS, JavaScript and other HTML files. This could be due to files being in a different location to the link specified or due a mismatch in the case used in the filepath. (the application may look into the files provided and give a possible correction)

- Presence of an index.html file. This is something that students regularly forget which causes issues when they publish to a web server.
- Cleanliness of file structure - placement of CSS files into a CSS directory, of image files into an images directory etc.

The application will utilise HTML5, CSS, php, as well as Python for parsing the files. For the duration of development, it will be hosted on a personal server, but after development may be placed on a UQ web server.

Quote

Risk Analysis

A project of this nature brings with it some inherent risks. The first and inevitable risk is related to the heavy workload from other subjects during the semester. This workload may influence the work progress of the team members. Consequently, the final product might not meet the clients expectations or even achieve our own benchmark. In order to ease the tension and pressure of every member, the distribution of task allocation and frequency of team meetings has been considered thoroughly. For each job task, there will be at least two people assigned to not only distribute the work but ensure the task can still be completed even when one person is busy. Meetings plays a crucial role here, since this task description and distribution will be discussed at these events. In addition, the project manager will also work as a mediator between members in order to fine-tune the different jobs carried out between the team members such as programming, user interface and documentation.

The difference in our team members understanding of HTML5 and the understanding of the target audience is another potential risk. It involves the knowledge gap between the creators and those who learn from it. In this case, it is likely that we might create a tool that cannot be understood by the target audience but does meet our clients basic expectations. For instance, the presentation of errors and types of errors the users encounter may be confusing to interpret. Therefore, our project manager has ensured our production timeline involves necessary collaboration with not only our client but also users along the way. This will be covered in more depth in the next paragraph.

Whilst on the topic of our application's compatibility, it is also challenging for our team to deliver a final product that validates HTML5 code completely and efficiently. Since DECO1400 has not yet included HTML5 in its curriculum, we are reliant on previous assignments (which are based on HTML4) to use in our functional testing. In this instance, the worst case scenario would be that the

tool issues incorrect errors to end users. In order to mitigate this risk, working closely with our client is necessary. We plan to utilise not only past examples but newer examples provided by our client and examples we personally program. As previously mentioned, our team also plans to conduct user testing in both a laboratory environment and an open area environment. Through consistent user testing of this nature, we can better improve the compatibility of this application with regards to the HTML5 standard.

There is a chance for conflict of ideas, as well as the chance that a large number of concurrent ideas are proposed to solve the same task. This risk most likely can delay our success and progress. Therefore, we have implemented a voting system within our team as well as included policies behind the voting system to ensure these conflicts do not arise. For example, the project manager will have the final decision on the matter if any decision reaches a tied vote. Furthermore, all voting will be most likely be conducted through Facebook, as this is our primary communication method beyond phone messaging and face-to-face meetings.