

Initial Plan – Automated Testing of Web Applications Coursework

Author: Matthew Herman (Student No. 1825882)

Supervisor: Martin Caminada

Module No. CM3203

Credits: 40

Project Description

Web Applications is a module taken by Cardiff University, Computer Science students in their first year, where one of the coursework assignments is to create two different sites, one is to create a static site about either a technology, or a person which was central to development of the internet. This should contain certain aspects which will need to be tested for. The other site that is to be created by the student is a dynamic site that allows a user to input a year and whether a verbose or numerical output is desired. The main objective of the project is to create a tool that will take the two sites, analyse against the given marking criteria, and make sure in the case of each site that it is correct. The aims of the project will be to assist the marker of the coursework, so they would not have to look through every part of the submission and the tool would be able to check if most of the aspects are correct and at the same time flag anything that would need looking at in more detail. The tool would not replace the marker only assist in this way.

Project Aims & Objectives

The aims of the project are to:

Produce a tool that automates the testing both aspects of the Web Applications coursework. The two aspects of the coursework are:

- Site 1: A Static Site created in HTML and CSS about either a Person or a Technology that was important in the development of computers. The parts of this site that need to be checked by the tool are:
 - The site should have at least 3 Pages of HTML
 - The site should have a navigation menu that can access each of the pages
 - The site should contain a table with at least 2 columns and 3 rows
 - The site should contain a style sheet, with the rules that set at least the font family, size, and the colour of the text.
 - The site should contain a clickable picture
- Site 2: A Dynamic site created in HTML which allows a user to input a year and a format, and the program should output the date for easter formatted in the given output. The parts of the site that need to be tested by the tool are:
 - The site should have a form that allows for the user to input a date as well as a format.
 - The site is styled using an external CSS style sheet
 - The site outputs the correct easter date based on the year as well as the selected format.
 - The site should have superscript for the day (1st 2nd, etc)

The tool should be able to be run on both sites, and check using requests whether the requirements have been met. If they are not met, even if only slightly the marker should be notified to be able to look further into it.

The tool should be able to take its input from the project server, and using the student username, to pass the URL into the tool to be able to check each submission.

Work Plan

Week 1

- Completion of Initial Plan in preparation for Project
- Meeting with Supervisor

Week 2

- Research of approach to be able to analyse and process the sites – look at possible previous ways this has been done.
- Start on Introduction and Background of Report
- Meeting with Supervisor

Week 3

- Selection of Approach to analyse the Site 1 (Technology or Person)
- Start on Implementation of testing on Site 1
- Meeting with Supervisor

Week 4

- Implementation of testing for site 1, including checking for the following:
 - o Site contains at least Three Pages of HTML
 - o Site contains a Navigation Menu
 - o Site Contains an external Style Sheet which has rules for at least, font family, size, and colour of text.
 - o Site Contains a table with at least 2 Columns and 3 rows
 - o Site contains clickable picture

Week 5

- Continuation of Implementation of testing for site 1, finishing any unfinished sections.
- Meeting with Supervisor

Week 6

- Research and selection of approach to analyse and check site 2 (Finding Easter given a year)
- Meeting with Supervisor

Week 7

- Start on Implementation on testing for site 2 including checking the following:
 - o Site contains input for the year
 - o Site contains input for format of the output (Verbose or numerical)
 - o Site is stylized with an external CSS Style sheet.
- If this completed early, then continue with implementation of the other sections of the site.

Week 8

- Continuation of implementation on testing of site 2 including checks for following, or less if some completed the week before
 - o Site outputs the correct date for easter given the year.
 - o Site outputs the correct format based on what the input was in the initial page
 - o Site outputs the superscript for the day.
- Meeting with Supervisor

Week 9

- Testing of tool for both site 1 and site 2, making sure outputs that the page is correct only if the page is correct, and flag to the marker if anything is wrong
- Make any changes if needed.
- Meeting with supervisor

Week 10

- Testing of tool and any more changes is needed
- Final Report - Approach and Implementation sections
- Final Report - Results and Evaluation

Week 11

- Final Report - Results and Evaluation
- Meeting with Supervisor

Week 12

- Final Report – Conclusion, References, and other Support Documents
- Final Report – Hand in