Software Implementation and Testing Document

For

Group 10

Version 1.0

Authors:
Aidan Martin
Riley Corey
Darren Kopacz
Douglas Kendall
James Kerrigan

1. Programming Languages (5 points)

We have chosen to use Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) for our web application interface. We have chosen these due to the fact that HTML is a standard to use for designing web pages and CSS is used for advanced styling. We have also chosen to compose our class functions with C# provided that all team members have been well introduced to the C++, C or Java. This is significant because the syntax of C# is recognizable enough for all team members to grasp very easily and in a short amount of time.

2. Platforms, APIs, Databases, and other technologies used (5 points)

We have decided to use Microsoft Azure Server for hosting our web application. Darren and Riley have previous experience using Azure in Computer and Network Administration. We also decided as a group to use Microsoft SQL for our user database and using the Visual Studio IDE for the implementation process. We have started using templates and other methods provided by ASP.NET Web Application Framework to begin the development process for our site. This includes using C# as our programming language of choice. We have researched using SendGrid for email confirmation and SMS text-alerts however we haven't researched integrating that into our site so it is subject to change. Researched the use of jquery, as the template that had been provided implements and supports many of its features. Implemented DataTables API allowing search functionality through cached data, while having advanced search features.

We changed our solution to ASP.NET Core in order to be universally available for all the members of our group. It has however broken some functionality of our project, requiring some considerations for our final incrementation.

3. Execution-based Functional Testing (10 points)

We have run the application through Visual Studio to test the functionality of account creation/login to ensure that users are successfully added to the database and able to log on (previously successfully tested). This test will ensure that the password follows the requirements, email is in the proper format, and username is not already taken. We have tested to ensure that users are able to add websites to their list of sites to check, ensuring that the proper date added and expiration date is included, such that the data successfully displays on the homepage of our application. We are still working on adding websites to the list to successfully pass our tests. It should be noted that we are working with LocalDB provided by Microsoft to test out our database.

4. Execution-based Non-Functional Testing (10 points)

We have tested that the application runs successfully on various machines (Windows/Mac) and various web browsers (Safari, Chrome, Firefox, etc). We have tested that the site runs efficiently, without any pages or additions/access to databases taking an extraneous amount of time. We will soon test site security to ensure that user's data is securely stored and hackers are not able to compromise the site by entering data into any request fields. We have tested the site for usability to ensure that users are able to operate the site without requiring any additional instructions or training.

5. Non-Execution-based Testing (10 points)

We have reviewed each other's code to ensure that each line accomplishes its purpose without producing any errors. We have reviewed code branches to ensure that any extraneous cases are handled. Communicated any sort of collision that could be produced through implementing APIs this increment. Discussed the structure of each webpage and how it's presented when navigating between them; adopted a color scheme which is present in each one.