**Requirement Specification**

Purpose of Solution

The purpose of the solution is to create a place for users to interact and share information with each other mainly through the use of posts. For example, a post detailing a user’s thoughts on current events in the UK. These posts would be viewable through the use of the main feed on the home page or on the personal wall of the creator of the post.

Scope and Boundaries

The project in the end should not cost anything. It is also not going to be producing any money either as it is simply for my advanced higher computing science project. Its due date is on March the 14th. Technical requirements for this project have already been outlined in the Feasibility study. In addition to those stated there, users will need to have access to the websites database and therefore the server it is run on. Any images used on the site will be royalty free.

Scopes include the website being able to load 50 posts max on each page along with along with being able to search for all users on the website that exist. Also being able to access any profile for any user on the website is another scope. In addition to this another scope is that any user at any time can choose to update their bio or password along with deleting their account.

Boundaries include the website not being developed for any operating system other than windows 10, even though I did use Ubuntu, I only used it whilst I was adding commentary to the websites files and therefore not actually being developed for it. In addition to this it is not being developed for any browser other than chrome. Therefore, they may function on other such operating systems and browsers but they will either not be optimal or simply not work at all. On top of this the website is not being developed for mobile devices so it may be difficult to navigate for mobile users. I will not be developing for mobile users at all. The site is also only being developed on EasyPHP v.14, Vim, VSCode and Notepad++ and documentation for it is only being made through word, excel, google docs, krita and ms paint.

Intended End-Users

Intended End-Users are teenagers who would like to communicate with each other. For example, sharing information through posts. This age restriction is not a hard one, it is simply a recommended age group. These users should have basic computer skills so that they can navigate the web pages that are part of the website. The websites structure will be similar to that of other social media sites such as Facebook or Twitter so it should be familiar to users who use such sites.

Personas

| Persona | S6 Student |
| --- | --- |
| Photo |  |
| Fictional Name | Elena Massies |
| Job title/ major responsibilities | High School Student |
| Demographics | * 17 years old * Has 1 brother * Oldest of 2 * Born in Perth |
| Environment | Elena owns a windows laptop and uses it for casual browsing and essays. |
| Quote | “Sleep or a social life?” |

| Persona | Computer Science Student |
| --- | --- |
| Photo |  |
| Fictional Name | Aleksandra Semyonov |
| Job title/ major responsibilities | Student at Glasgow University |
| Demographics | * 20 years old * Lives in a student accomodations in the city centre * Digital lockpicking as a hobby * Works at starbucks part time |
| Environment | Owns a Windows desktop and Linux laptop. Studying in computing science and likes to mess around a bit. |
| Quote | "All your base belongs to us" |

User Stories

| Name | Elena Massies |
| --- | --- |
| What they want | A platform to release her stress on |
| Why they want it | Is very stressed with their advanced higher assignments and incoming exams. |

| Name | Aleksandra Semyonov |
| --- | --- |
| What they want | A platform to share tips on digital lockpicking |
| Why they want it | They would like to teach others about how insecure everything they own is |

User Scenario

Elena Massies

Due to the stress derived from her advanced highers, Elena Massies would like to have an outlet for all her frustrations where she can remain anonymous, as she doesn’t like having to give out her personal details. As such she would like to find a website which she will be able to simply let go on and make posts. She’s not very used to browsers other than chrome however, and would like the site as such to be on chrome

Aleksandra Semyonov

After not having the greatest time with hackers whilst playing games online, Aleksandra Semyonov decided to fight fire with fire and decided to learn some tricks so that he will be able to defend himself after learning what the hackers do. He would like to alert others of the threat hackers pose and would like to allow anyone to be able to see the information he’s learned and contact him if need be. He believes something like facebook or twitter would be good but as both require the user to enter personal details he doesn’t like the idea of them. He would like to have some sort of about page for users to get contact information like his personal website.

User Requirements

The technical requirements are shown in the Feasibility Study. In addition, access to the server is needed to work with the database.

In the user survey, users also mentioned what they would like to see on the website; however, some of the features were not feasible in the given time frame. Listed below are options for the website which users chose to be implemented and are feasible in the given time frame:

* The windows operating system is a requirement as 84.6% of users use it so I will have it be the main operating system
* A text based website will be a requirement as I do not have the time to implement an image based one and almost 50% of users have an interest in it
* The chrome browser will be a requirement for the website to function on as 76.9% of users use it as their browser
* User Walls will be a requirement as over 50% of users would like to see it as a basic feature of the site
* The ability to delete your account will be a main requirement of the website as 92.3% of the users would like to have it as a feature
* The ability for a user to create their own account will be a requirement as 76.9 of users would like to be able to do so
* A user feed where updates from users would be visible will be required as over 60% of users would like it to be a feature
* Sorting of posts will be a requirement as over 50% of users would like to be able to do so
* Searching for other users will be a requirement as 84.6% of users would like to be able to search for features such as it
* A notifications page which introduces you to the site
* Ability to change your bio and password, therefore the user settings, will be a requirement as almost 70% of people would like it as a feature

Functions required by the solution

User Interface

Many forms will be needed for the website for working with the database. These pages include a registration page and therefore a registration form and many others. The data from these forms will be either processed or added to the database.

In addition, there will be validation of entered data to check that the correct inputs were entered or when inputs are compared to the table.

After logging in, they will be able to create posts and therefore add data into the database via a form, that is, after validating the data inputted. These created posts will be displayed in either a feed or the users wall depending on which of the two they are on. Therefore, the posts table will be read onto the pages. The user will be able to then view the posts on these pages. An error will be outputted if the post does not meet the requirements after validation. The user will be sent to the home page if they do.

There will also be a search feature in order to search for other users. This will be done by creating a query that will be used by the database in order to find the searched user(s). This outputs to a search page for the user to navigate. The outputs are a link to the searched user(s) page along with the searched user(s) bio. Errors will be sent if no results are found or the searched input after validation does not meet the requirements set for it.

A navigation bar will be used on all pages of the website, excluding the login and registration pages, with hyperlinks leading to various pages such as the home page.

On a user’s profile they will be able to see their bio as well as the posts they personally created.

In settings you will be able to either change your bio, password or delete your account. Which works through server side scripts and actions done on the server. These will output errors or success in their functions.

Media elements such as pictures will be seen on most pages for a user’s profile

picture.

Program

Web Pages and forms will be created through the use of HTML, CSS and JavaScript in Notepad++, Vim and VSCode. These will be used to create the design that I have for the site by matching colours and locations of buttons, links etc. PHP will be used to communicate between a client and the server for functions such as searches and sorts along with validation. It will be used alongside SQL to interact with and communicate with data from the database. JavaScript will be used to add functionality to the site

Data Structure

The database that I will be using will be made through MySQL on a server. The database will include tables for users which will include login information and posts linked to them which will be in another table. No personal information on the users is being stored on the database unless intentionally inputted by a user. As mentioned above, there will be a table for posts which will include the texts in the posts and the users who created the post along with the date the post was created. Primary and foreign keys will be used to link the users and posts tables. In general, relational tables will be used with foreign and primary keys. The tables will be changeable by users as the users must be able to change data for stuff such as changing their password and bio are making a post. The database will be queried by inputs from the website and will send data back to be displayed.

Inputs and Outputs

Inputs will come from a keyboard and mouse. Keyboard will be used for search boxes and filling out forms. Mouse will be used for clicking buttons and following hyperlinks to web pages. In response to these actions the queried tables will output data to the website, showing for example a username. Keyboard inputs will be validated and presence checks will occur for things such as the login page. Server side validation will be used for logins where they have to be compared against data in fields of the database along with inputs from other forms like that of the search, creating the post, changing your bio and password along with deleting your account.

There will also be inputs and outputs between html, php and javascript as files and functions interact with one another when handling data.

Essential Design Features

Here is a list of essential features, otherwise known as the main features of the site.

* The home page will be a feed listing the updates on user posts
* User pages containing their profile, posts and bio
* A page for a user’s settings so that the user will be able to change their bio and password along with being able to delete their account
* Registration page for users to be able to create an account for the site
* Login function so that users may enter the site
* A search bar to search for users. Present on all webpages.
* Navigation bar so that users will be able to easily navigate the site
* A notifications page detailing basic navigation of the site as a post from the creator of the site