Graded Unit project

Silicon Croft Website

# Action Plan

## Analysis of the Project Brief

### Project Brief

Mesomorphic is a small Shetland based software development company who create bespoke software for small and medium sized enterprises using modern development methodologies. They have asked me to create a website for an ongoing project that they would like to expand from a single page on their main website [https://www.mesomorphic.co.uk/siliconcroft](https://www.mesomorphic.co.uk/siliconcroft/) to its own website <http://www.siliconcroft.co.uk>. The website will be used to display information about the Silicon Croft project. They would also like to set up a new server and install all software required to host the website. They have a very restrictive budget and thus open-source software, and pre-existing solutions should be used where possible. The website must be responsive as a broad range of devices are used extensively in educational environments and the greater world, and the website needs to work well under all conditions. Although the company is based in software development some of their staff who will be adding content to the website will have little or no background in software. ***Source Server and install server software, Create a prototype website and set up web space***

I have been asked to clarify the requirements of the project then identify, source, and implement a suitable hardware and software platform, install and configure the software and set up a website prototype which the company can then later extend.

### Problem Analysis

* The website must be responsive and able to function to a high standard on as many platforms as possible. If the website is not responsive, then it will not look as intended on all platforms and may even not function properly on some.
* Designing a responsive website from scratch is out of the scope of this project and thus careful selection of supporting tools and packages must be made to ensure the completion of the project on time.
* The website must be database driven and allow for easy additions, deletions and updates by staff members of the client’s company. As some of the staff adding content do not have a background in software or web development the process would have to be as simple as possible and thus the obvious option would be to use a suitable Content Management System.
* A suitable server host will have to be found.
* All software required to run the server must be installed.
* Third party installers don’t normally want to service if they didn’t set-up so most likely in-house maintenance which would suggest that commonly used software packages should be preferred to help in bug finding.

### Aims

* Source a suitable server, install server software and configure the server as per the requirements of the client.
* Install and configure a Content Management System so that non-technical staff within the client’s company are able to add content to the website with minimal training.
* Produce a responsive prototype website that looks good and functions on as many platforms as possible.

### Requirements

#### Functional

* ***TODO***
* The website must follow the style guide and keep in style with the graphics provided by the client as examples.
* The website must be responsive and function to a high standard on a wide range of devices and web browsers.
* The website must be data driven and allow simple addition, deletion and updating of database entries.
* The website must be easy to use for all targeted audiences (educators, students, technology based companies) and the greater public, it must have clear, easy to follow navigation.
* The website should be designed and developed using up to date tools, technologies and techniques and, follow current web standards.

#### Non-functional

* ***Hardware***
* The hosting provider for the web server must be geographically close to the client’s business as most of the people who visit the website are likely to be within a limited geographical range of the client and this will avoid high ping times which can significantly impact the user experience.
* The server will require a modern operating system which is regularly kept up to date to ensure that it is as secure as possible.
* The server will require a database for the CMS to use and we will use MariaDB as it is free, open source, mature, in active development and I have experience using it in the past.
* We will need a server-side scripting language. As we will be using WordPress as our CMS and it uses php internally we will be using php.
* ***Software***
* **Text Editor**
* **Browsers**
* **Word Processor**

#### Constraints

* The website must be completed and fully operational by 3rd May 2022.
* There is no budget for the project and so open-source software will have to be used and free solutions will have to be found for any and all problems.

### Key Factors

* The website must be responsive and support as many browsers and devices as possible.
* The website must be user friendly with an easy to understand layout and simple navigation.
* The website must be database driven to allow non-technical users to easily add content.
* It must be reasonably straight forward for non-technical users to add content to the website.
* The Server that is selected has to be powerful enough to be able to run the website.
* The Content Management System has to be easy to use for non-technical staff members adding content to the website.

### Resources and materials

#### Hardware

* ***How they will be obtained***
* A computer that is powerful enough to run all the software required for the design and development of the project will be required however this is not a very high requirement especially as the software has quite low requirements by modern standards. As my personal computer is of a reasonably high spec by modern standards it will have no problem running all of the software I will be using.
* A mobile device and a tablet to test the usability and responsiveness of the website on smaller devices and at different resolutions. The mobile will be an iPhone 8 Plus, and the tablet a Samsung Galaxy Tab A7, as these are the devices I have available to me personally.
* A server that is capable of running the software platform chosen, any plugins chosen and the website. The University Of The Highlands and Islands is providing a Virtual server that is capable of running all the required software specifically for this project.

#### Software

* A text editor will be required to produce source code and scripts, to edit configuration files and modify any other text files required. I have a personal licence for a text editor called Sublime Text that I will be using as I am familiar with it and it is more than suitable for the needs of this project.
* A word processor will be required to produce the manual (To train the client’s staff on adding content to the website) and any other documentation required. As I am a student of UHI I am provided free access to the Microsoft Office suite which includes Microsoft Word which I will be using for this purpose.

#### Procedure

1. ***Acceptable use for college equipment, Data protection act for any client data. Copyright Licences for any third party Software and Graphics used, Sublime Text Personal Licence.***
2. A suitable software platform and hosting provider will have to be identified and chosen to be used as the server where the website will be hosted.
3. The server will have to have all the required software installed and any changes made to the configuration files to prepare it for the website.
4. The CMS will need to be configured, any plugins installed and configured
5. A prototype website will have to be created to show the core concept of the website and allow the company to extend it later as their needs change.
6. The implemented solution will have to be tested to ensure that it operates as expected.
7. A manual will have to be created to train staff on how to add content to the website

### Information Sources

#### Official Websites

* [WordPress.com](https://wordpress.com/)
* [PHP: Hypertext Preprocessor](https://www.php.net/)
* [MariaDB Foundation](https://mariadb.org/)
* [Microsoft](https://www.microsoft.com/en-gb/)
* [Squarespace](https://www.squarespace.com/)

#### Forums and Tech Help Websites

* [StackOverflow](https://stackoverflow.com/)
* [CodeProject](https://www.codeproject.com/)
* [Microsoft Support](https://support.microsoft.com/)
* [Server Fault](https://serverfault.com/)
* [Database Administrators Stack Exchange](https://dba.stackexchange.com/)

#### Client Supplied Information

* [Style Guide - Google Docs](https://docs.google.com/document/d/1YeYWP7FQM1vQ_INMrNShCmJTp7vfx7H5jEpZaGATgRQ/edit)
* [Silicon Croft initial meeting 8 Feb 22.docx - Google Docs](https://docs.google.com/document/d/1kgQwZJW1crh8AhNB3lt2ILDeANeMkvwN/edit)
* [Cultivating Silicon Croft - Google Docs](https://docs.google.com/document/d/1GpO_FR-QnpvF1GcbQBH_30KV-F0a26JVsPTtVrUgRNw/edit#heading=h.5f1gh4kvvaa6)
* [Logos.zip - Google Drive](https://drive.google.com/file/d/1UcE1a5qFgybXyCBY2YVEaKVw32xg6MMr/view)

#### Books

* Apache HTTP Server Documentation Version 2.5 ([Amazon UK](https://www.amazon.co.uk/Apache-HTTP-Server-Documentation-Version/dp/1680921487/ref=sr_1_1?keywords=%E2%80%A2+Apache+HTTP+Server+Documentation+Version+2.5&qid=1651079373&sr=8-1))

### Analysis

Information will be gathered and used from the following sources:

* An initial meeting was held with the client to gain more information as to what they expected the outcome of the project to be and to ensure that we both had the same view of the final product.
* Official documentation will be used as much as possible to determine what platform and software components would be most suitable for hosting and producing the type of website that is required by the client.

## Project Plan

### Timescale

The project has been moved back and will now have to be accelerated as I was unable to work on the project for a number of weeks. The project will run from 10/05/2022 until 31/05/2022 at which point it must be complete and all deliverables must be in the hands of the client. A gantt chart has been produced to show the expected schedule for each task and it’s individual assignments.

### Milestones and Deliverables

* Manual
* Website
* Server

### Main Tasks

### Resources

* People
* Equipment
* Facilities
* Funding