

Final Report



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Individual Project – CM0343

This document contains the final report of the Individual Project; the Online Scrapbook. It aims to highlight and summarise the implementation process, testing of requirements and functionality, any problems with solutions and ensuring the deliverable set out in the Initial Plan have been met correctly.

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1.0 Introduction; Final Report

The project is an online scrapbook web application that has been created to allow users to organise their photos, videos and diary notes using locations and time points. Additionally, whilst being able to preview this media and share across social media networks such as Facebook, Twitter and Instagram. One of the primary aims of this project is to allow users, mainly travellers, to ability to create and store their memories within a scrapbook, of their time abroad. The secondary aim of this project is to ensure the website has efficient usability, to guarantee on-the-move travellers quick access to the site, updating their content from anywhere around the world. Finally, the third aim is to be able to learn and deliver a functional website, using the languages describes in the Interim report.

The target audience, beneficiaries for this website is mainly the student population; this is due to the fact they are the most common age representation of most likely travellers. Students that undertake in gap years are more likely to spend the time travelling, and with the increasing use of technology and social networking sites, this project website could be of great demand.

In order to achieve these goals a lot of implementation has to be complete; the project scope for this is as follows. Implementing the website; this will be created using HTML5, which is a web language devised to allow website creation. Formatting the website; in order to create a unique feel, I will be using CSS3, the most up to date language for styling websites. Testing the website; using several methodologies in order to test the functionality and to ensure the website is error free. More details about the locations and time points have been defined in the Interim report. However, there are a few constrains in which will need to be overcome; integrating the site with social network sites to allow the sharing of photos and videos, locating a hosting space for the website and database, and finally; learning the basics of website design. See Implementation for more details.

A traditional phased approach has been used for my project. This identifies a sequence of steps to be completed. In the traditional approach, five developmental components of a project can be distinguished, these are as follows; initiation, planning and design, implementation, testing and completion. These 5 components form the basis of this report, using the Interim report as a reference guide. The initiation will include the preliminary steps taken such as the scope, requirements gathering, etc. Planning and design involves the website draft designs and planning when each part of the implementation will be completed. Implementation; this phase contains the website development using the programming languages briefly described above. The last phase, testing and completion, involves using usability testing and system testing to ensure the website is fully functional before the website gets rolled out.

Due to the nature of this project, we have made a few assumptions. Due to the fact assumptions lead to risk, this list has been kept to a minimum of two assumptions. Firstly, users of this website will simply want to upload content and then exit the system; as far as detail goes, this has been kept to a minimum to ensure the process is swift. Secondly, that the main users of the system are travellers, this is important because avid scrapbook individuals may require a more detailed, complete system.

The final report will require outcomes to work towards; the first and main outcome is to develop a functional and usable website. Due to the fact that is a first time experience, it is of upmost importance to develop a site that works and which the potential user can interact with. Another outcome is to ensure the website is secure; adding characteristics such as password encryption, and a login, will ensure the users can feel safe whilst using the scrapbook; knowing that access to their information is assured.

2.0 Project Background

2.1 Description of the Online Scrapbook

The project is a traveller's journal application, in other words, an online scrapbook. The idea came from personal experiences with there being no suitable website in order to allow users to create an easy to use, online scrapbook. The application takes advantage of Google Maps API, which will allow its users to organise their photos, diary notes, etc. in two-dimensional space by physical locations and time points. Physical locations will be visualised using the Google Maps API, whilst the time points will somewhat resemble Facebook's timeline in order to store these physical locations at different time points. The 'pins' will be used to show what places have been visited and places of future interest. Each of these locations or 'pins' will be click-able, with links leading to external websites. These external websites will allow the data to be shared using various social networking applications such as Facebook, Twitter and Instagram. Similarly, there will be links leading to text documents which will be used to form diary descriptions of particular visits. Lastly, the application, as mentioned above, will be supported by Facebook and Twitter to facilitate information sharing and including friends.

2.2 The Problem; Documenting Travel Experiences

From personal experiences whilst travelling, two of the main problems are running out of space on a memory card, not having the available resources to quickly document your experiences and organise all media types; such as photos, videos and diary notes. Looking at the current systems available, this involves being distracted by news feeds, adverts and messaging activity. Ideally, an application would be created to allow a potential user to quickly upload photos, videos and diary notes, with comments about those such as time, location and description so that when they return home, these memories are backed up and not forgotten. You are presented with the scenario of making the scrapbook as you go along or piecing this together when home.

Likewise, whilst travelling, internet is valuable and comes at a cost. Internet cafes and rare free Wi-Fi allow users to interact with applications such as Facebook, Instagram and Dropbox. Firstly, Facebook allows users to create albums, upload photos and share to various audiences whilst including tags and captions. However, this is a social networking site filled with functionality that is not necessary or quick enough to create a personalised scrapbook.

In addition to this, there are several online services currently on the market that offers the availability to create the scrapbook once you're travels have finished. The disadvantage to this method is content; trying to remember day by day activities is very difficult. Travellers return to home with large quantities of pictures in folders, usually organised by date taken or size. This therefore, makes the process of creating the scrapbook after the trip, very inconvenient.

2.3 Existing Websites for Documenting Travel Experiences

For the project website to be successful, research has been continued into the methods of how photos and videos are uploaded to other similar websites. The reason for furthering the research on from the Interim report is to be able to highlight where the Online Scrapbook solves the problem and is an improvement to the current method of uploading. In addition to this, it provides the added benefit of generating new ideas and previewing designs; noting down potential flaws in the design and positives of the design. The first website to be assessed is Facebook. Being one of the most popular social networking sites, Facebook has ensured its functionality, in terms of uploading photos, meets the needs of all its users. The screenshot below shows the 'uploading a test image form'.



Figure 1 - Facebook Photo Upload

Firstly, the benefits of this site are the appearance; all functionality can be easily viewed; this is something to remember when designing the website due to the fact if the user has to spend time looking for content this is a design flaw. In addition to this, Facebook offers the ability to create an album, with a description, keeping everyone connected through tagging and various sharing options. The Online Scrapbook is more focused on the individual experience of uploading photos, rather than creating a circle, it is important to be able to tag friends, but still remain a personal scrapbook for each user. However, one improvement that could be made to Facebook is the form, each different part of the content to be added is very spread out, this site would be a lot more usable for its users if the content was moved closer together; as this will allow users to preview their descriptions, title names, etc.

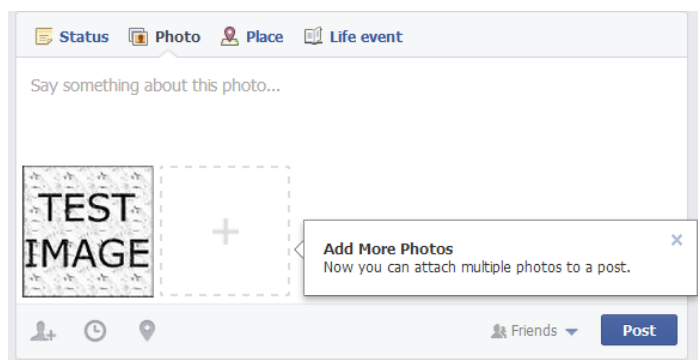


Figure 2 - Facebook Photo Status

Lastly, the screenshot above represents Facebook's photo status uploading method. This allows its users to quickly upload multiple photos to their timelines. The reason for including this part in the research is due to the fact quick and easy to use uploading systems are imperative to the Online Scrapbook and represents its core significance. The user is able to preview their photo, add a short description, tag others with ease and then upload.

The next social media site is Google+, a similar site to Facebook but involving around circles and linking to Google accounts. The screenshot below represents the photo uploading system used. Primarily, a useful feature to this system is the ability to directly edit the photo; this is something that isn't core functionality of the Online Scrapbook, but may be useful feature to think about including in the future. Additionally,

the form is very straight forward; the description for the text is above the photo, whilst still giving the ability to tag friends and family. This is different to Facebook as it does not use the full page; users are able to find what content to include quicker, thus a positive feature of this uploading system.

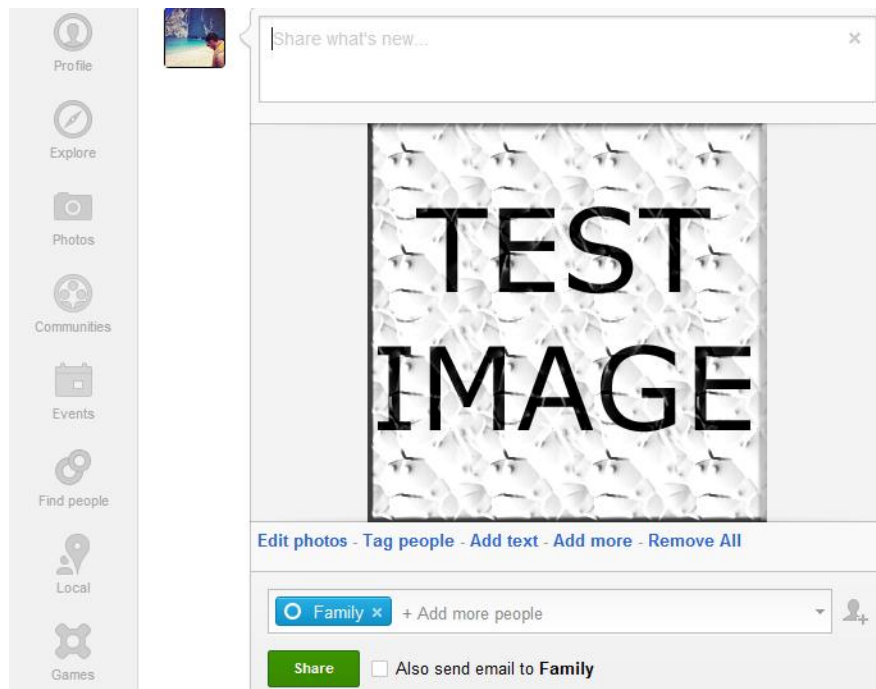


Figure 3 - Google+ Upload Photo

Another photo uploading system is Dropbox; this is an online storage facility using the cloud. This formed another part of my research due to the fact the design layout is very appealing and interesting. Dropbox using icons and images to represent functions, likewise to Facebook and Google+ there is no form for uploading photos as it's simply just the individual image. Positive features to note to perhaps include within the Online Scrapbook is icons, floating text to better describe different functions and an upload confirmation tick which demonstrates to the user that the photo has successfully been uploaded. We can also include in the future ideas section of this report a progress bar; by replicating this as seen in the screenshot below, users of the scrapbook are able to identify the time left for photos to be completed uploaded, an added feature that would provide much joy to users.

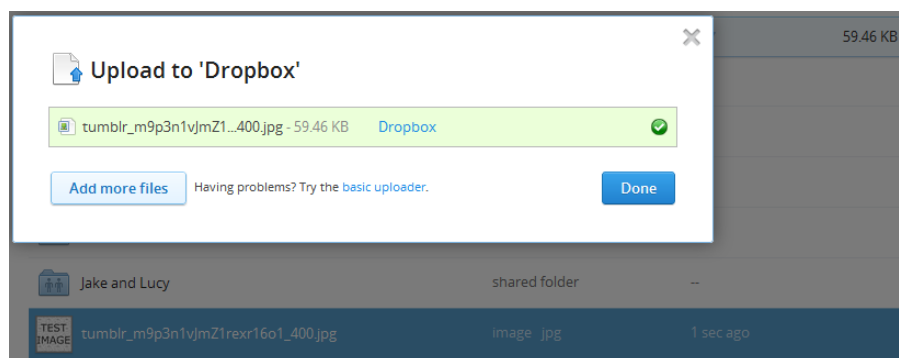


Figure 4 - Dropbox Photo Upload

Continuing on with previous research on shown in the Interim Report section 2.3, 'crop mom' allows you to make scrapbook pages based around downloaded photos in various formats. This research is leaning toward a future feature of being able to arrange and create your own scrapbook pages. However, there are multiple features that can be taken from this site and adopted to the Online Scrapbook. Firstly, the capability to change the font of the text, download the scrapbook form and select templates are all

functionality that can be implemented within the system. For example, users may want to be able to select a variety of forms when uploading photos; one form may contain a considerable amount of detail compared to the others, in order to cater for their individual needs.



Figure 5 - Crop mom Scrapbook

Tutorials; Another important feature to look at when analysing existing websites is their effective ability to communicate with its users in relation to tutorials, how to use their system. Offering tutorials is an important aspect to any website, but needless to say these must not become an annoyance or tedious. The majority of website users will be familiar with standard forms, uploading content and submitting. Below is the research conducted into various websites offering the best, easiest tutorials to date.

Facebook, as shown in the screenshot below has an extremely large help centre. Obviously this will not be replicated within the Online Scrapbook but a key feature to take note of is the use of screen recording. Rather than a list of text, Facebook offers a video tutorial using an example account to demonstrate the site and its countless functionality. The videos are broken down for different parts of the site; this is beneficial as it ensures users do not have to waste time watching tutorials or demonstrations in which they personally are familiar with. Lastly, another feature that can be included within the Online Scrapbook is categories; Facebook offers a variety of categories suitable for a certain problem or help required. This will again, save time for the users of the Online Scrapbook, allowing them to be able to find the relevant help page.

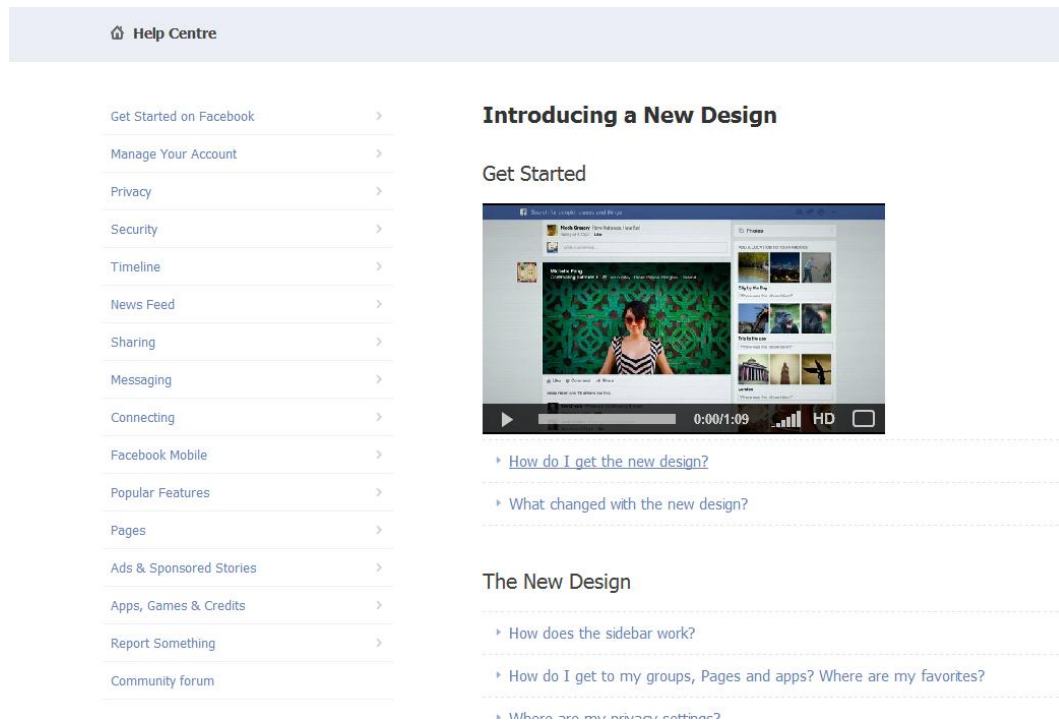


Figure 6 - Facebook Help Centre

The next site is Google+; first fault to comment is the fact the help or tutorial page is not visible from the social networking home page. This is important to remember when designing the Online Scrapbook as users need to be able to find the tutorial page. However, there is a useful feature that can be replicated from this to perhaps improve the readability and usability of website tutorials. In the screenshot below you can see 4 icons, these are similar to Facebook's listed categories; the use of icons appears easier on the eye and is something to consider when dividing up the tutorials of the website.

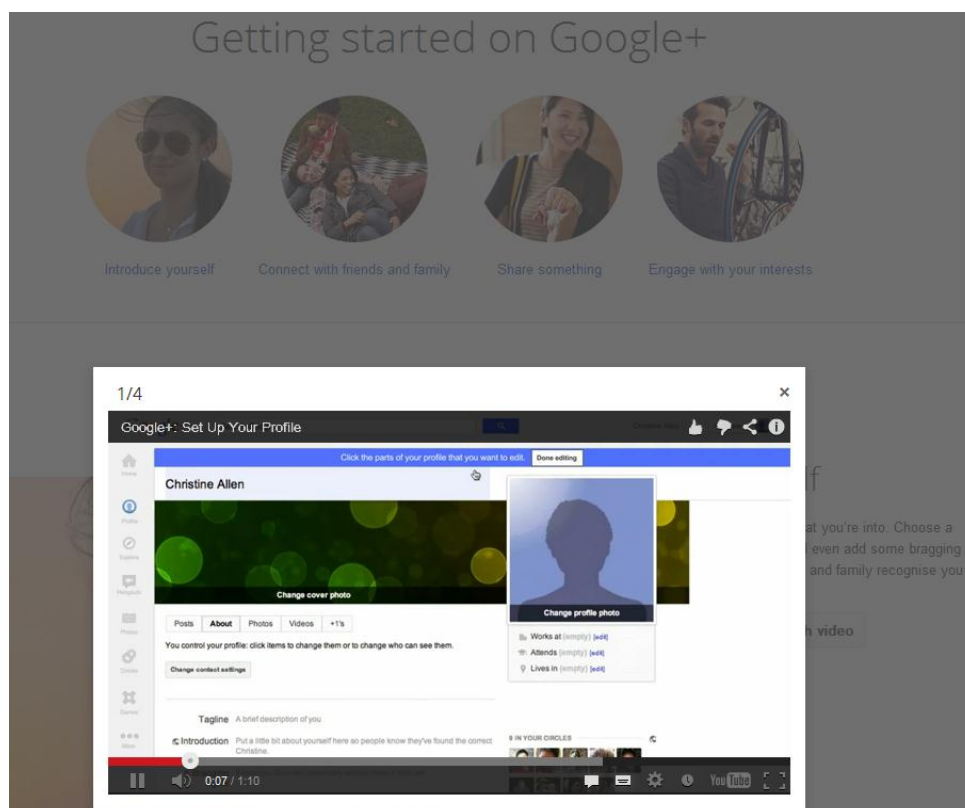


Figure 7 - Google+ Tutorials

The next site to look at is a popular online scrapbooking site, 'famento'. This page, shown in the screenshot below, is the tutorial page for the website. Key points to take from this tutorial are the use of numbers and text coinciding with images. This tutorial may be more suited to the Online Scrapbook as it does not necessarily need a lot of detail or a dedicated help centre. A simple list of instructions will be more than suitable to show users what to do and how.

1. Tell your stories
2. Save your photos
3. Remember your loved ones
4. Stay connected


Famento is where you can record the history of your family, and the story of your life.

Bring your friends and family together by connecting everyone through a private social network. Write personal stories, record family stories, share family photos and videos, and stay updated with what your friends and family are doing.

It's **easy** and it's **free**. Start by [registering](#) and creating your own profile.

1. Tell your stories

Do you ever wish you knew more about your parents or grandparents? Do you ever wonder what your grandchildren will remember about you? Everybody has a story to tell, and their stories shouldn't be forgotten. Share the stories of your life with friends and family.




Stories
Nathan Kissel

Add a cover picture

Sienna Kissel joins the family
1994

Written by Nathan Kissel Aug 12, 2008

Keywords:



Submitted by Amy:

At the end of my senior year, I had already moved in and was living with Nathan. Nathan and I had to move out of the apartment that we had been sharing with two other roommates. Auspiciously, my parents bought a house around the same time period. So, my parents graciously allowed us to move in with them.

Besides being a great mama, father at a young age. He had Nathan worked nights and was things that Nathan left behind.

Write all the details of your life story or memory

He learned this from his himself through college. to a living space (many great

Figure 8 - Famento Tutorial

The last website tutorial is from crop mom. This site has similar characteristics to the other website as to which we looked at earlier. Categories have been used to break down different parts of the site with links to suitable tutorials. However, the key part which has improved our understanding the design feature is where the tutorial is located on the home page. This is clear and easy to see for all users, allowing them to find the tutorials without having to look through the whole site.



Home Gallery **Tutorials** Help

Scrapbooking Tutorials

LET YOUR CREATIVE JUICES FLOW
[Create New Layout!](#)

Get Creative with Your Photos Using CropMom



How-To Videos
[Introduction to CropMom](#)

CropMom Step by Step

[Step 1: Uploading Your Photos](#)
[Step 2: Making a Layout Using a Template](#)
[Step 3: Sharing your Layouts](#)
[Step 4: Printing Your Layouts](#)






Online Scrapbooking Guide

[Online Scrapbooking Dictionary](#)
[Navigating the CropMom Builder](#)
[Right-Click Tricks](#)
[Adding Frames to Your Photos](#)
[Linking to Your Scrapbook Gallery](#)
[Understanding Photo Resolution](#)

Figure 9 - Crop Mom Help Page

2.4 Methodology

Throughout the project, several tools have been used to ensure the problem, as mentioned above, can be solved efficiently. This had been discussed in the Interim report in terms of tools used for design. Below is a descriptive list of the tools used during the second stage of this project.

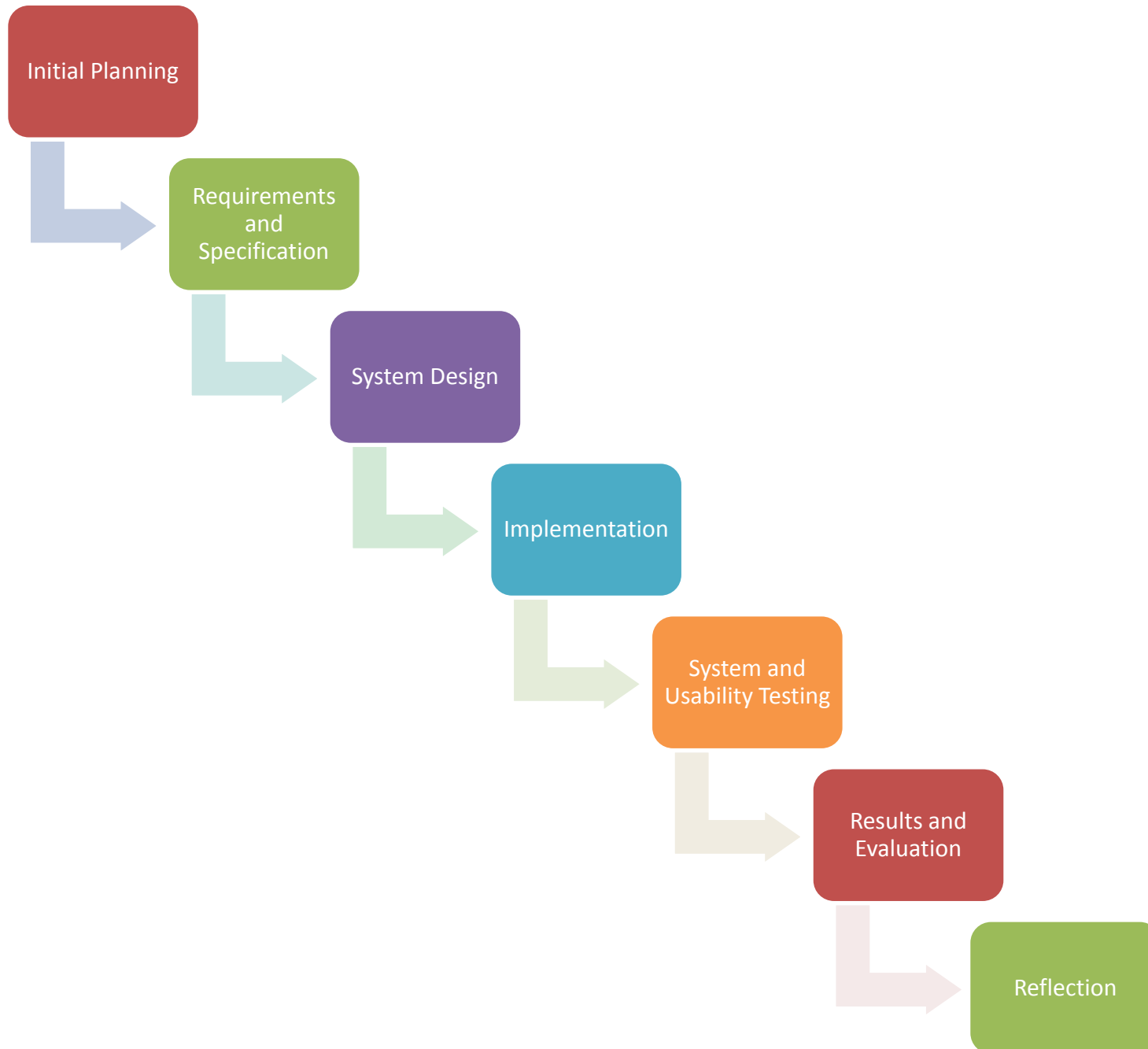
2.4.1 Project Management

Time management is of utmost importance when dealing with a large project. Being able to efficiently manage your time will improve not only the delivery speed of the project, but will allow you to solve upcoming problems. One of the tools used in order to improve this was 'Things'. This is an application for iPhone which is an easy to use task manager. You are able to control a to-do list, by setting dates for completion. As shown in the screenshot below; Things has a projects feature; this allows the user to control projects, set milestones with dates, sync with the cloud so your tasks can be managed on a computer and keep a record in the logbook of tasks completed.



Figure 10 - Things iPhone Application

In relation to methodologies, for this task, the Waterfall method was adopted. This is a sequential design process; mainly used in the software development process. The reason for using this model is due to the fact it is a visual process flowing steadily downwards through the phases of this project (Royce 1970). Below is a diagram of the waterfall model used for this project to demonstrate the phases; note: this is created after the Interim report.



Conjointly, the use of Google Docs was employed to aid communication with my supervisor. Each time a document was uploaded, deleted or edited; my supervisor would be notified of this and is able to see an updated document. Additionally, the use of comments on documents improved project management as it enabled me to efficiently and quickly correct the report. Below is a screenshot representing the use of Google Docs as a project management tool.

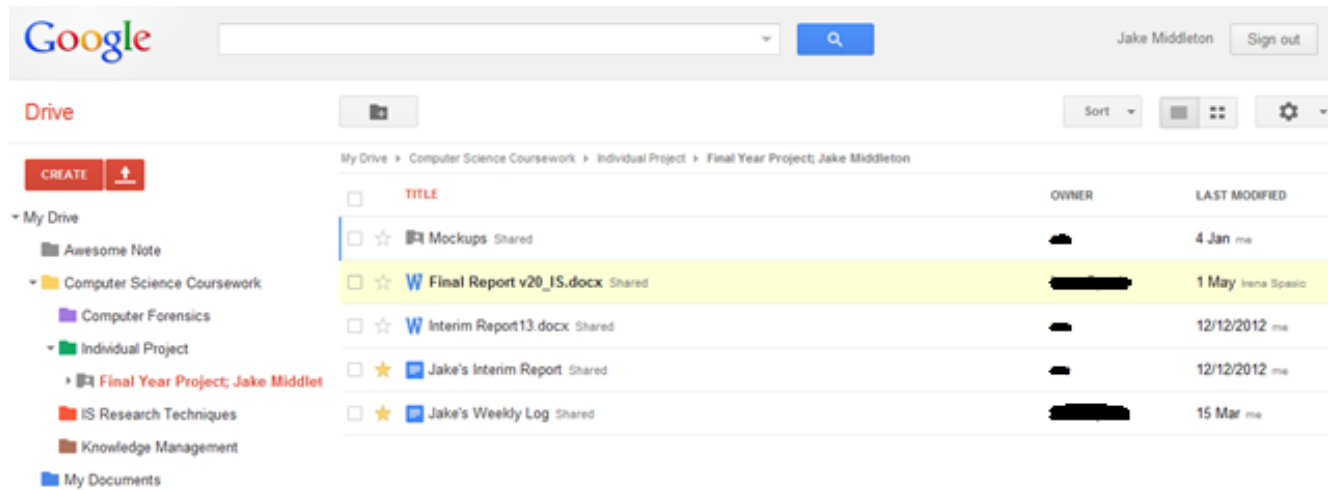


Figure 11 - Use of Google Docs

2.4.2 Implementation Methods

The implementation is a key stage of the project; it involves developing the website and using programming languages to implement functionality in order to ensure the site works correctly. Below is a list of the implementation languages to be used, taken from 'Interim Report'; more detail about the implementation phase is contained in section 4.0. Furthermore, a diagram has been included to visually show how PHP, Web browser and MySQL coincide, interact and work together.

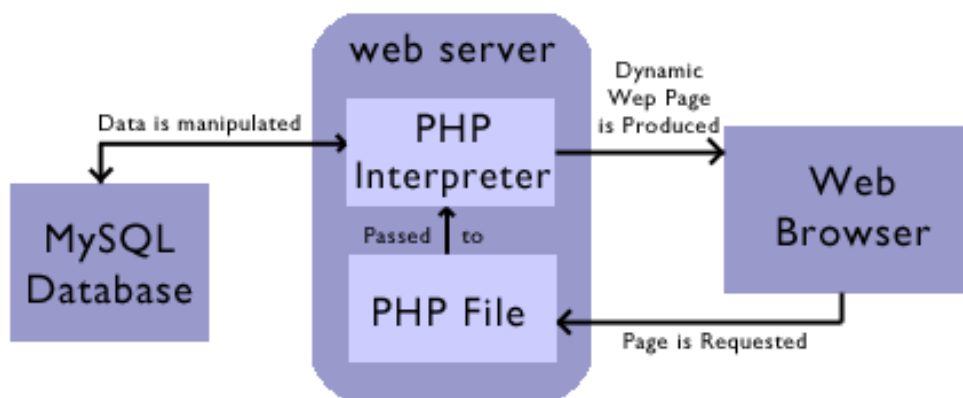


Figure 12 - PHP to MySQL Interaction (Brown, 2007)

PHP is a server-side scripting language meaning it is interpreted on the web server before the webpage is sent to a web browser to be displayed. A person using a web browser asks for a dynamic PHP webpage, the web server configures this and passes the file to the PHP interpreter. This, in turn, passes an SQL query to the MySQL server, then returning the results for PHP to display.

2.4.2.1 HTML (Hypertext Mark-up Language)

The reason for choosing HTML5 is because it is the most up to date hypertext mark-up language. The language does not require any extra browser plug-ins and has more beneficial usability. HTML can create

more elegant forms and is also cross-platform; meaning it should work flawlessly whether its laptops, smart phones or tablet. This language will be developing the pages for the site using a simple text editor and will be formatted using style sheets.

2.4.2.2 CSS (Cascading Style Sheets)

The reason for selecting CSS is to describe the look and formatting of a website to the web browser, building a content-rich site. CSS3 is the most updated standard for creating unique, visually pleasing graphics for HTML web pages. In order to increase the usability of the website, adopting appealing colours will aid users finding key functionality, as this is a huge benefit to CSS.

2.4.2.3 PHP (PHP; Hypertext Pre-Processor)

By implementing PHP, the site will contain access to a registration and login page. PHP is the most popular scripting language on the web; it is used to enhance web pages. With PHP, you are able to benefit from creating username and password login pages, check details from a form, create forums, picture galleries, etc.

2.4.2.4 MySQL (Server Query Language)

This is the most popular open source database due its high performance, high reliability and ease of use; and these are the primary reasons for including this as an implementation tool. MySQL will be used for the creation and management of the database. In addition to this, for searching, editing, storing and retrieving data for a server. This is required to allow users to available to save images, videos and diary notes.

2.4.3 Evaluation Methods

Testing is an important phase after implementation. A test case was provided in the Interim report to show how each test is going to be undertaken. In addition to this, usability testing has been included to review and analyse the usability of the Online Scrapbook. Below is a screenshot of Survey monkey; this is a website set up for creating surveys, gaining responses and analysing the results. This has been an incredibly useful tool as we were able to advertise the survey on Facebook, through email and through an informal focus group in the computer science labs demonstrating the Online Scrapbook and competitor sites. Other methods available required a premium account in order to use more questions. Originally this form of testing was going to be through individual hand outs, but found the use of technology a lot less time consuming and favourable.

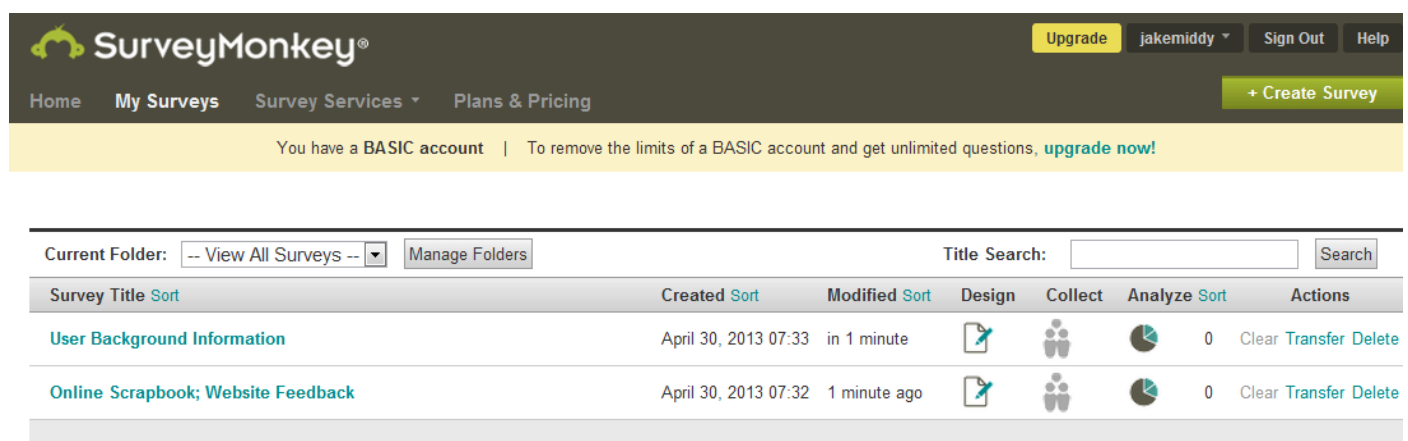


Figure 13 - Survey Monkey

Google Forms is a tool that could have been adopted through the use of Google Drive. Google Forms is a useful tool to help plan events, send a survey, or collect other information in an easy way. You are able to benefit from linking a form to a Google spreadsheet. If this is linked to the form, responses will automatically be sent to the spreadsheet. This is extremely useful but not adopted due to the fact we already held a survey monkey account and knowledge of this service was unfamiliar.

Moreover another reason for using survey monkey as the results were presented online and made for an easier analysis. As mentioned above, the computer lab focus group was pivotal in providing real life impressions of the Online Scrapbook. Below is a floor plan created; this is the laboratory of the Computer Science and Informatics department. The seats and computers shown in grey and red represent the machines used. This is to ensure we were able to monitor the users interact with the system.

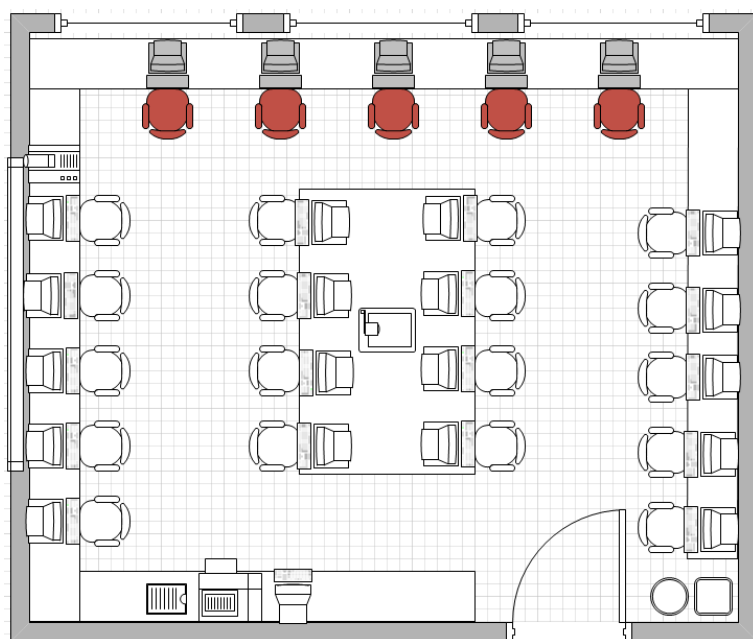


Figure 14 - Focus Group floor plan

2.5 Project Constraints

Project constraints are defined as the likelihood of delaying the completion of the final year project. There are three types of project constraints as shown below; technological, resource and physical. The first constraint involves the learning curve when implementing a new programming language. We have briefly covered HTML, CSS and PHP during first year but not in detail required to be able to create a fully functional system. This therefore creates a constraint as the project is purely dependant on how I adapt to the language and how learn to use it. There are several tutorial sites such as w3schools; but features such as uploading images and videos to the database is not to my understanding.

Another constraint is to do with time. With such an easily-interpreted project, and a project that could potentially have an increased scope; this is purely based on time. If we are presented with more time than anticipated, if a task takes less time than planned, additional functionality can be included. In addition, if certain tasks take longer than first anticipated, less functionality will be completed thus affecting the overall project.

Likewise, organisation is always a constraint with such a large project; being able to manage time, resources, other module coursework, etc will play a huge factor. Due to the fact that the majority of my modules are in the second semester, it is imperative that phases of this project are brought forward to allow a suitable amount of time in between sets of coursework and revision for exams.

Lastly resources are another constraint; the school of computer science and informatics offers free hosting and database storage. If one of these services goes down or works incorrectly, this will jeopardise the project plan and time frame. However, there were a variety of free hosting sites available for me to use, but we decided to stick to what we were familiar with. More to the point, the school offers documentation and guides to using these services; thus enabling free help if errors begin to occur.

3.0 Specification and Design

3.1 Specification

The specification is provided to give the reader a clear picture of the system we plan to create by describing what it does. This is a document usually provided with every website project detailing the purpose, description of the site, front and back end functionality, different viewpoints and a conclusion.

Note: see section 1 and 2 for purpose and description of the project.

3.1.1 Functionality

Every website should have a purpose. This may be either to inform customers about products, to function as an informational resource, or to connect people with other people. Whatever the purpose is, it is ultimately the core of the site, the nucleus around which everything else is ultimately wrapped.

3.1.1.1 Core Functionality

As mentioned before, the Online Scrapbook is broken down by its core functionality. Below is descriptive list of the functionality.

- Uploading Content; this is the main function of the Online Scrapbook and represents the entire site. Uploading content involves photos, videos and diary notes, allowing users to document their travelling experiences. There are 3 forms on each of those respected pages, including characteristics such as description, time, location, people and the media itself; photo or video.
- Preview; the preview page contains thumbnails of images uploaded by users. This gives them a chance to see what they have uploaded or potentially missed. Additionally, this page will hope to contain video and diary note thumbnails but this is yet to be implemented.
- Personalisation; this is the last main function of the site; each user has the ability to register individual accounts. Once this has been saved, users can then log in anywhere with their appreciated username and password.

3.1.1.2 Sitemap

In order to provide an indistinct picture of the system, a site map has been created. It is used to map out the site architecture, for example, the structure, navigation and page order. Additionally, to plan the logical presentation, visualise user paths and organise the presentation or the web site.

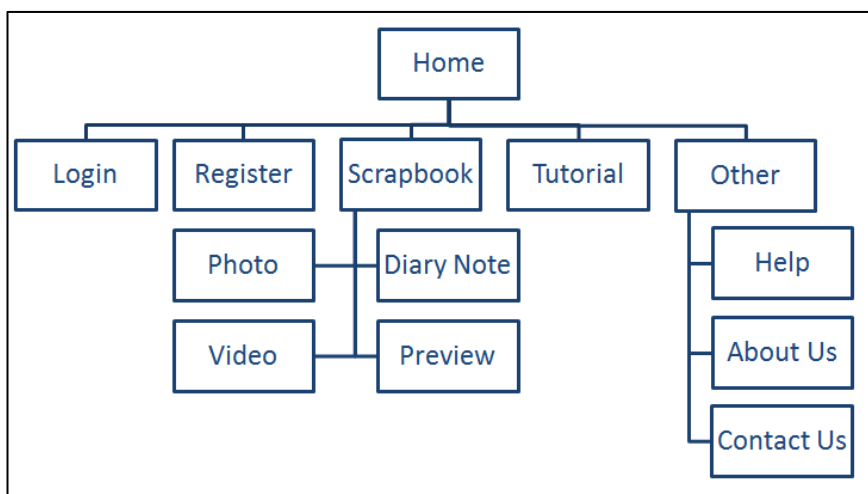


Figure 15 - Site Map

The key point to note from the site map is the use of flat site architecture. Each page is within one clickable level of depth; an advantage to users looking for a fast and easy user interaction or experience. This is critical because the fewer links you make a 'spider' follow in order to find a page on the site, the higher your chances the page will be found, indexed and highly valued. Simultaneously, this site map has been slightly altered from the Interim Report; the 'share' page has been changed to a 'preview page'.

3.1.1.3 Website Page Description

This section of the specification contains a description of each website page and how it is to function.

Home; the site is the first page that is displayed; it is the hub of the website containing the links to each part of the Online Scrapbook. From the Home page, the user is able to login, register, read the back end pages such as about us, contact us and help, view tutorials and begin to create their personal scrapbooks.

Login; this page is self-explanatory; it is used to enable users to login into their accounts using a username and password. In addition to this, a future feature of the login will enable Facebook integration, allowing users to access the Online Scrapbook using their Facebook credentials.

Register; this page is also self-explanatory. The register page is used to allow users to create their own accounts using several fields, these are; full name, email address, username, and password and confirm password. The details will be saved onto a secure database and passwords will use encryption.

Scrapbook; this page allows users to begin creating their individual scrapbook. The scrapbook leads off to photo, video, diary note and preview. Preview allows users to view content to which they have uploaded to the database. The photo, video and diary note pages include forms that allow users to add content to their scrapbook; this will be saved into the database.

Tutorial; this page holds frequently asked questions and a video tutorial guiding first time users around the site. The video is there to show the variety of functionality, how to set up an account and log in, and how to add content to the scrapbook.

Other; the about us, Help and Contact pages are back-end functionality pages that have been included to give details about the website. These are important pages as users may require some form of help that a tutorial may not be able to offer, be able to read a description about what the Online Scrapbook and is to finally contact us if a question cannot be asked or for feedback purposes.

3.1.1.4 Miscellaneous Functionality

This includes certain functionality that isn't core and is important to the Online Scrapbook. Firstly, password encryption; this has been included to ensure users passwords are securely saved into the database. Secondly, the username of the user logged in is displayed, this is a form of assurance to remind users that their session is running and they are logged into the website.

3.1.2 Use Cases

A use case diagram describes a sequence of actions that provide something of measurable value to an actor. Actors are used to play a role in one or more interactions within your system; this is a person, organisation or external system. This has been used for the project to highlight functionality and relationships between the potential users (travellers) and the online scrapbooking system. Below is a modified Use Case diagram for the Online Scrapbook.

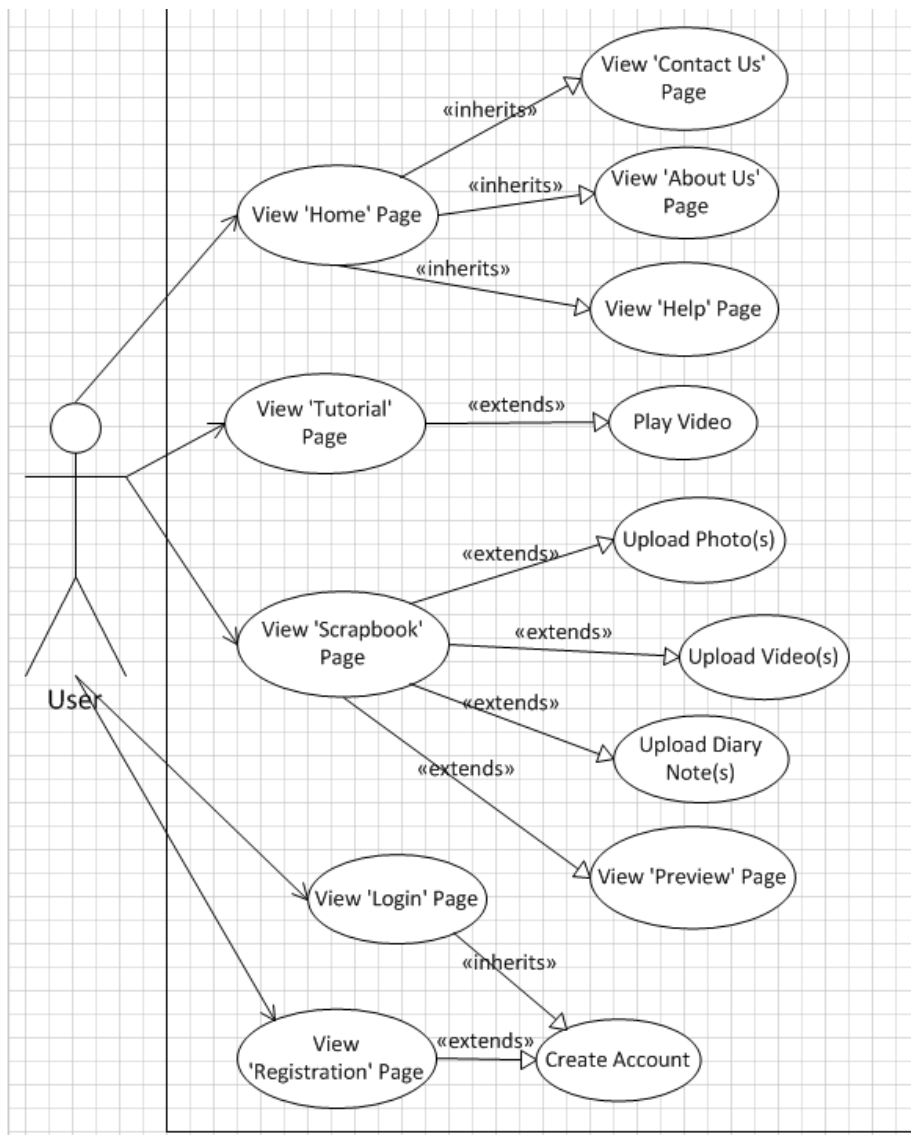


Figure 16 - Use Case Diagram

Changes that have been made that are noticeable are the introduction to the login, preview and information pages. These information pages are static and linked off the Home page. The login page is inherited from the registration due to the fact without an account you cannot login. The use case diagram is mainly used to be able to product affective activity diagrams as shown in the Design section below.

3.2 Design

We have discussed what the software system does in the specification section as shown above, the design involves it how does so. The Interim report showed various mock-ups designs for the Online Scrapbook; this will be further discussed below.

3.2.1 Different Viewpoints; Pictorial Techniques

Designs are usually effectively described using various viewpoints. Viewpoints convey some information about the system that is otherwise missed from the developer; having multiple viewpoints will show some form of the system that other viewpoints missed. In order to provide the most beneficial viewpoints; we have used pictorial techniques such as data flow and activity diagrams.

3.2.1.1 Data Flow Diagram

This pictorial technique is used to demonstrate how data flows through the system. This is important to use to show any potential flaws in the website design and where security procedure's need to be put in place in order to protect data. It looks at where the data will come from and go to as well as to be stored.

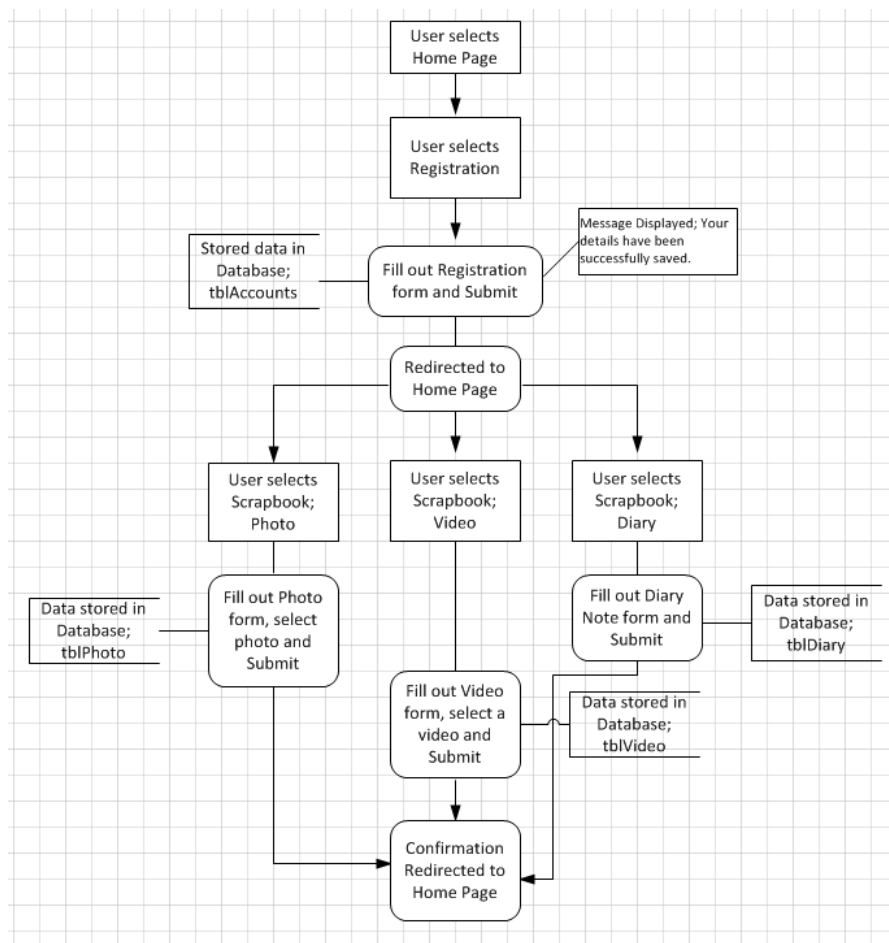


Figure 17 - Data Flow Diagram for typical User

The diagram above shows the Data Flow diagram; this has been created to show a typical user uploading content to the database using the Online Scrapbook. As you can see each category of data will be stored in a separate table; this is to ensure the process of recalling and thus previewing content is smoother and is easier to control. The diagram includes three redirected processes to show the different data stores of photos, videos and diary note uploads. A user cannot upload all three at any one time; this is purely to avoid creating three separate diagrams.

The different data types to be saved to the database are as follows; text, integers, characters, date and blob. Text is used for text fields such as name, integers for the ID, characters for username, description, location, etc, and finally blob is for the media content; photos and videos.

3.2.1.2 Activity Diagram

This diagram is used to describe the dynamic aspects of the system. Activity diagram is basically a flow chart to represent the flow from one activity to another activity. In other words, an activity can be described as an operation to the system. The reason for implementing an activity diagram over the other forms of diagrams such as entity-relationship, sequence and state charts is due to the fact the Online Scrapbooks primary aim is to allow users to upload content quickly. By showing the activities in a diagram,

we are able to see whether a section can be broken down by half the clickable levels of depth. The diagrams have been broken down into five main activities;

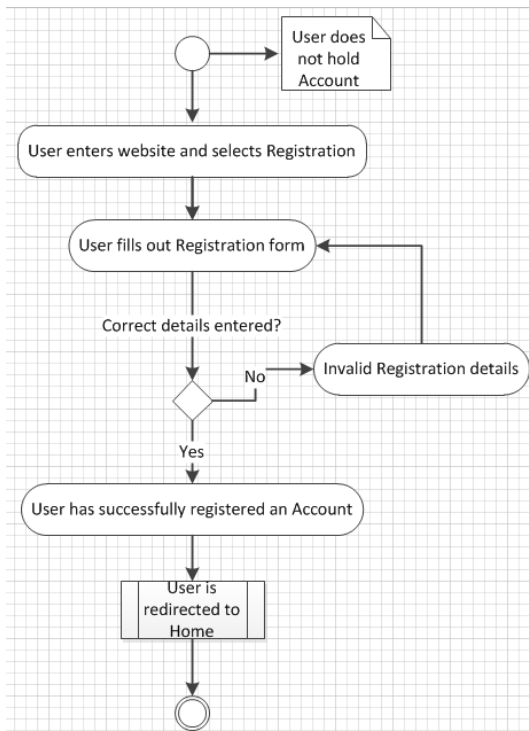


Figure 18 – Activity Diagram; Register Account

The activity diagram above represents the register account phase. As you can see from the small quantity of steps, the site has been designed to ensure the user can access important functions of the system with ease. The activity diagram below shows the login steps. A key feature to point out from this diagram is the ability to register account if the login is unsuccessful. Other than that, this is a standardised procedure.

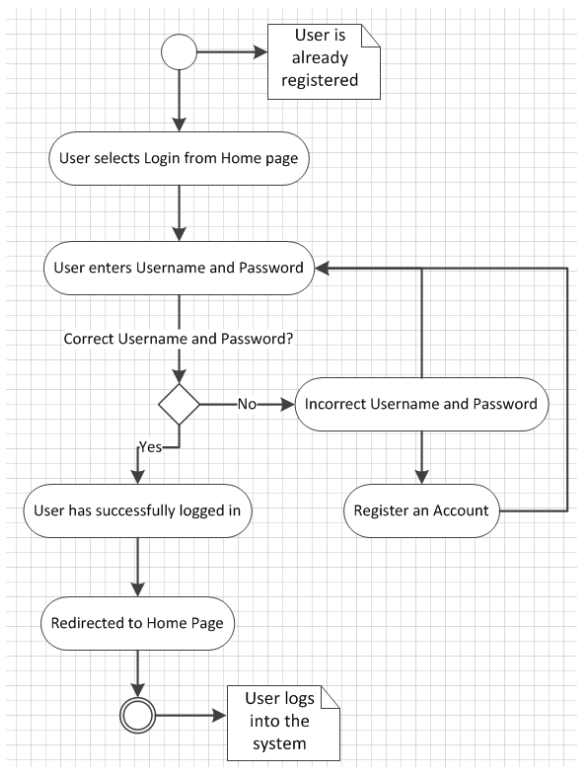


Figure 19 – Activity Diagram; Login

The next activity diagram is the upload photo. This diagram has not assumed that the user has logged in just to demonstrate the full amount of steps. In addition, for the purpose of this task we have selected to upload a photo to demonstrate the steps rather than a video or diary note. In the latter stages of the report, we will be using cog tool to confirm the timing of each page to improve usability and the speed. The importance of validation has been shown in this activity diagram, alerting the user that they must correct a certain data field that is incorrect.

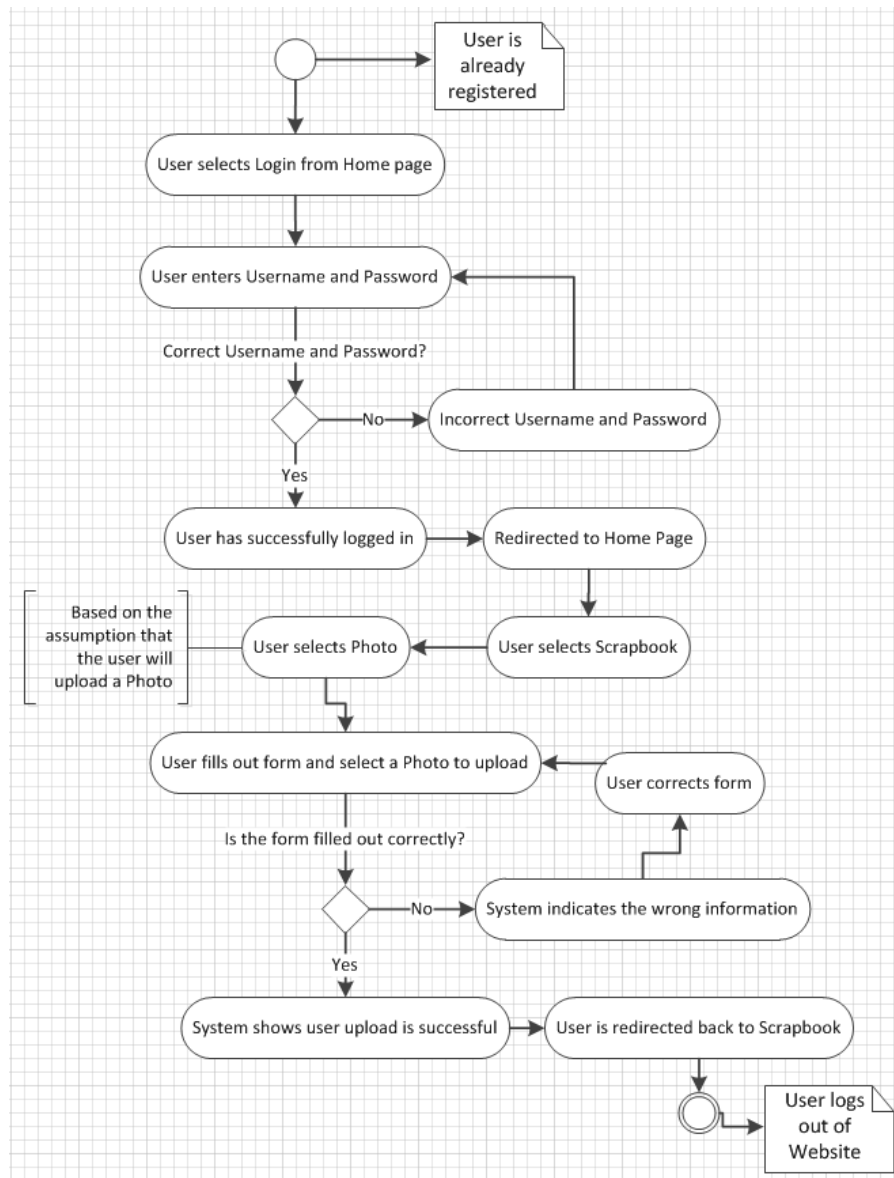


Figure 20; Activity Diagram - Upload Photo

Another activity diagram that has been created is the information pages. For this task, we have collated all three information pages together to show how to access all three. These pages do not provide any functionality, but are purely used as information or guidance for the user. In the preliminary stages of the design process, to access these pages would be on a secondary menu system located at the bottom of the page. However, the design has drastically changed, moving the location of this menu system to the top of the page to allow users instant easy access.

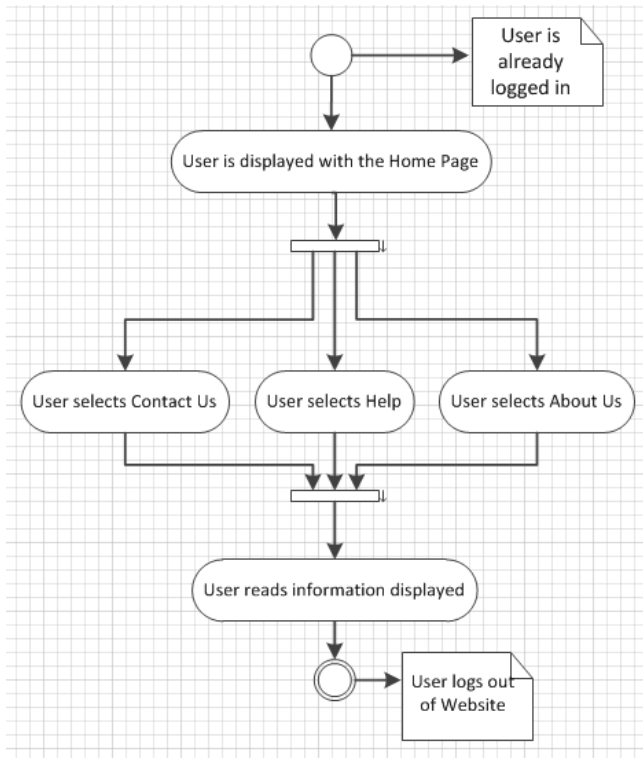


Figure 21 – Activity Diagram; Information Pages

The last activity diagram that has been created is for the tutorial page. The use of these activities diagrams is within the best hope to portray the most important uses of the Online Scrapbook. Once the user accesses the tutorial page, depending on the functionality of the site, they will be presented with one video or a variety to select from.

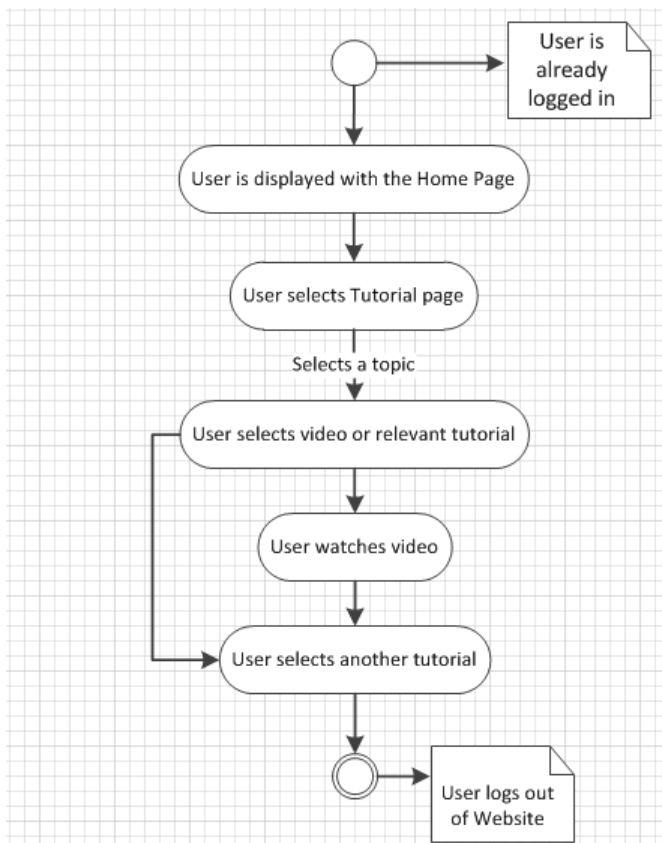


Figure 22 – Activity Diagram; Tutorial

3.2.1.2 Entity-Relationship Diagrams

This diagram is used to describe the dynamic aspects of the system and the relationships with data. Due to difficulties with the diagram, you are unable to see such relationships. Between accounts and photo, video and diary note there is a one-to-many relationship. This is because a user can use photo, video and diary note, rather than just a single-valued service.

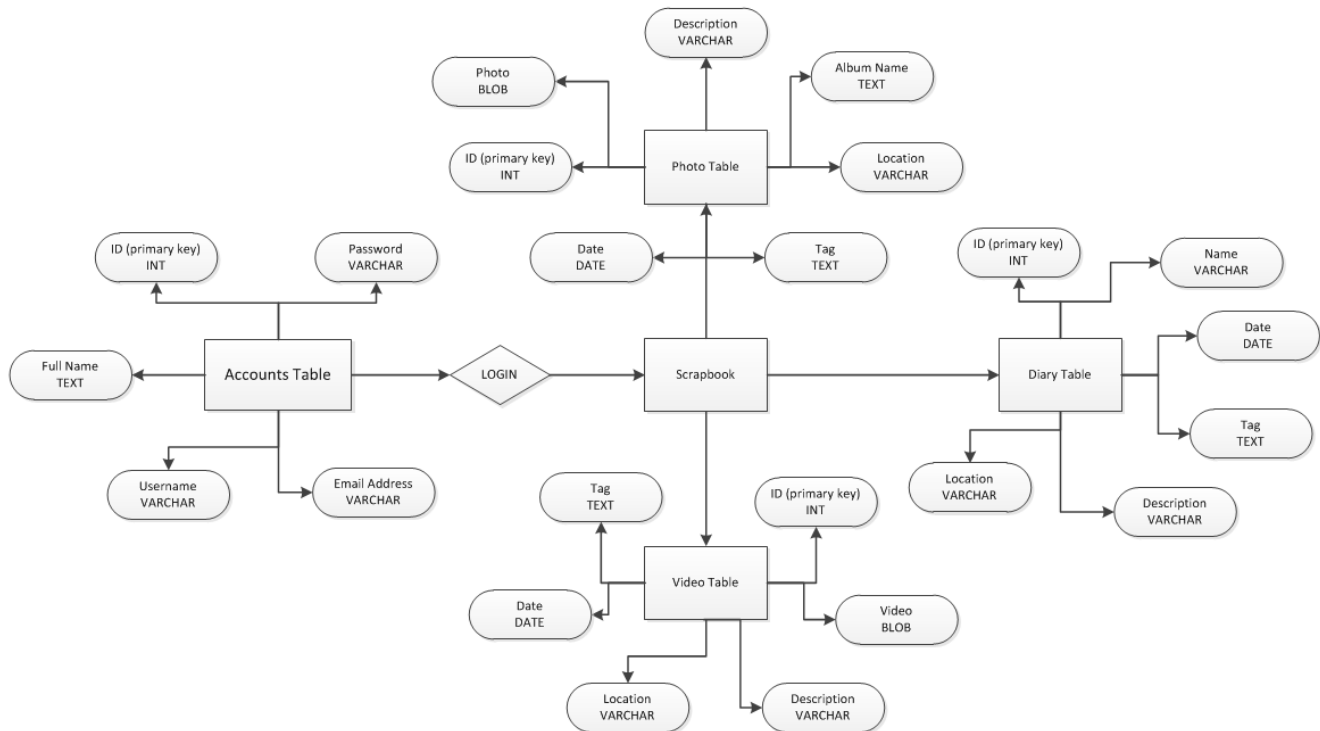


Figure 23 - Entity-Relationship Diagram

3.2.2 Website Design Choices

Throughout the designing process, as detailed in the Interim report, there were many different design choices presented. With most web development projects, the chances of implementing the exact design are very small. This is due to the fact that the development stage may not go according to plan, or you may find a certain layout is more beneficial. Below is a detailed description of three mock-ups designs that were made during this phase of the project.

The first design is blue themed; it is one of the first mock-ups that were created during the design phase. A key element to point out on this design is the menu system at the top; each function would be represented by an icon along with a text name. In addition to this, the 3 image boxes would display example scrapbooks that have been created by users. However, the reason for not selecting this design is due to a number of factors; the colour; reading black text off a blue background is not easy on the eye and is difficult to establish different colours. The images of possible scrapbooks; this functionally will not be included thus making this part of the design irrelevant. Lastly, a scroll bar, we found through several website analysis that scrolling through pages displeases users, so it is imperative to design a site that does not invoke the use of scrolling.

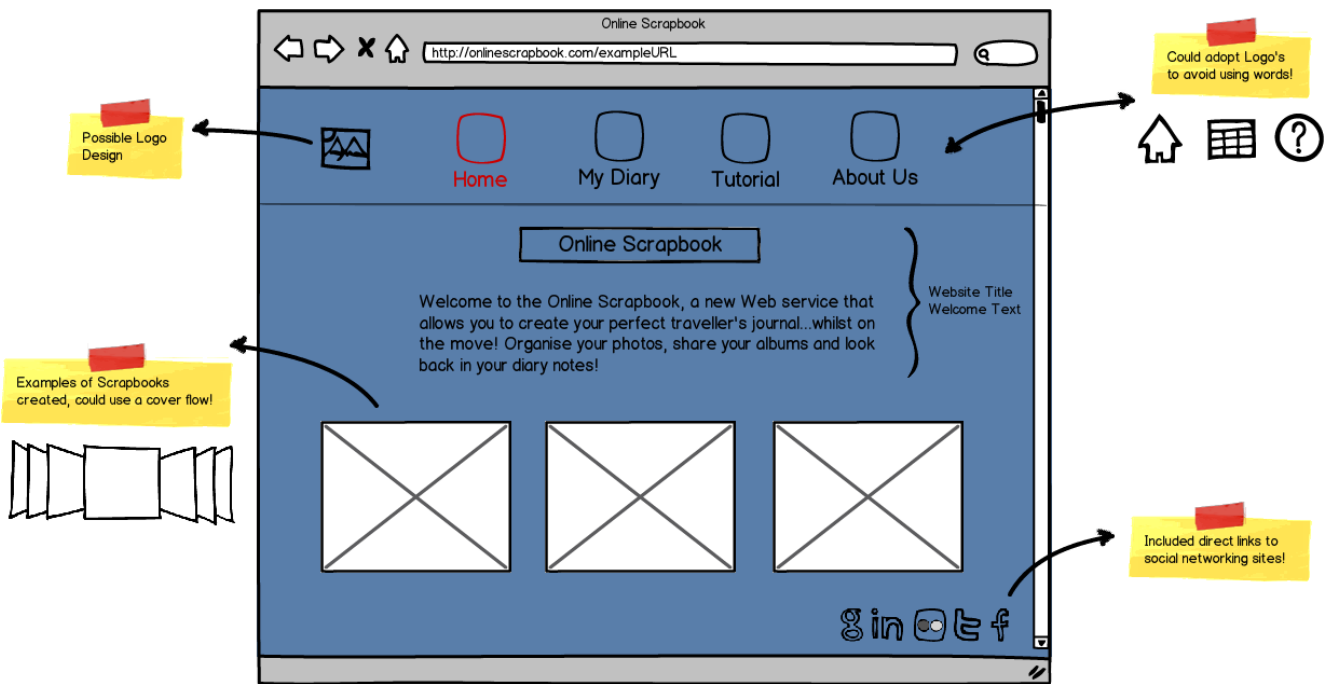


Figure 24 - Design 1

The second design, as shown below, features a grey and red background. Firstly, this design features a side menu strip and a focus square; what I mean by this is content is automatically changed in the middle box without affecting the rest of the layout. This design had both its advantages and disadvantages. What we took from this design was the use of a middle box and functions displayed underneath. This allows the user to quickly select between different parts of the website, without the hassle of loading menu lists. Also, the background colour, most popular websites and websites with the highest rank usability have a very light grey or white background; this is to cater for all potential users. The disadvantages of this site; the left menu strip wastes space on the page; we found by including this at the top of the page would allow the content in the middle to be displayed at a larger level. Additionally, the news feed feature could not be implemented due to programming difficult thus making this design feature irrelevant.

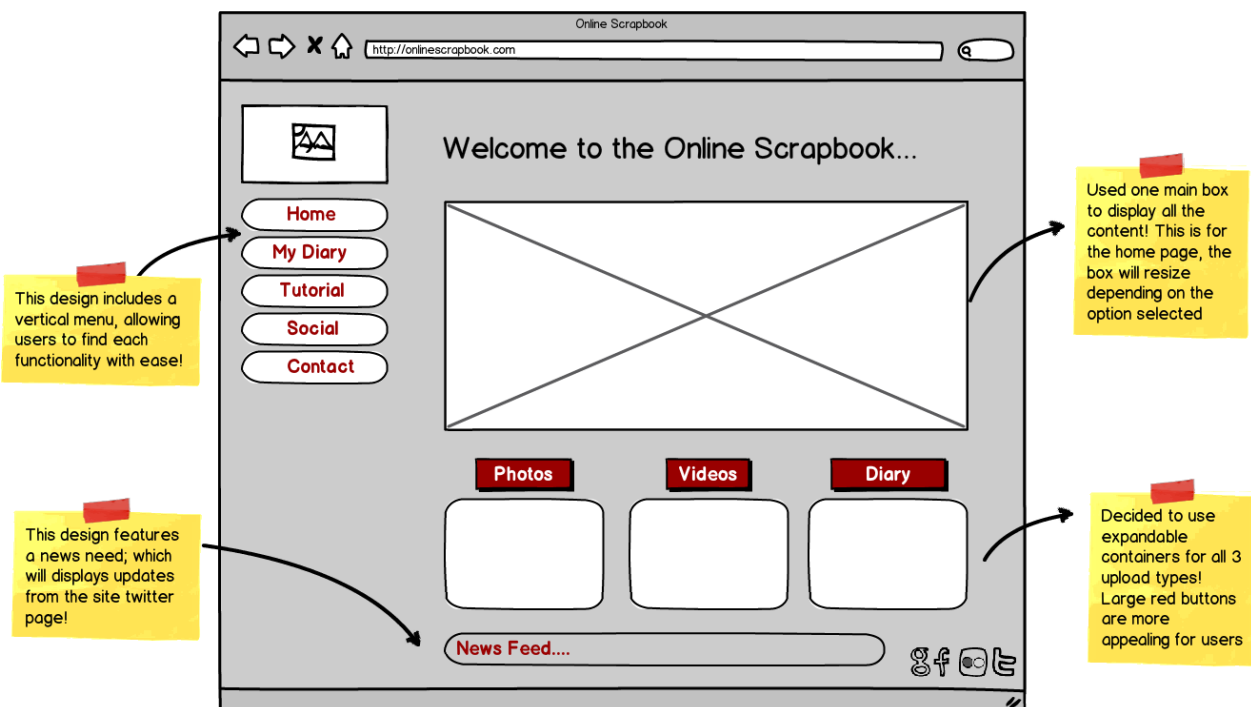


Figure 25 - Design 2

Throughout this process, a total of five designs were created but for this process we have selected the top three. Below is a screenshot of the design that was selected. As you can see it has taken features from the first two designs. The reason for selecting this design is because it is clear, easy to use, doesn't contain many clickable levels of depth and every function can be found from the home page. The use of colours and icons for the four main functions improves the usability for users in terms of being able to distinguish the different between each. However, the only feature that may be changed during implementation process is the menu strip located in the bottom right hand corner; this may be moved below the title due to the fact it allows Information pages to be found easier, as some users may not look past the four main buttons.

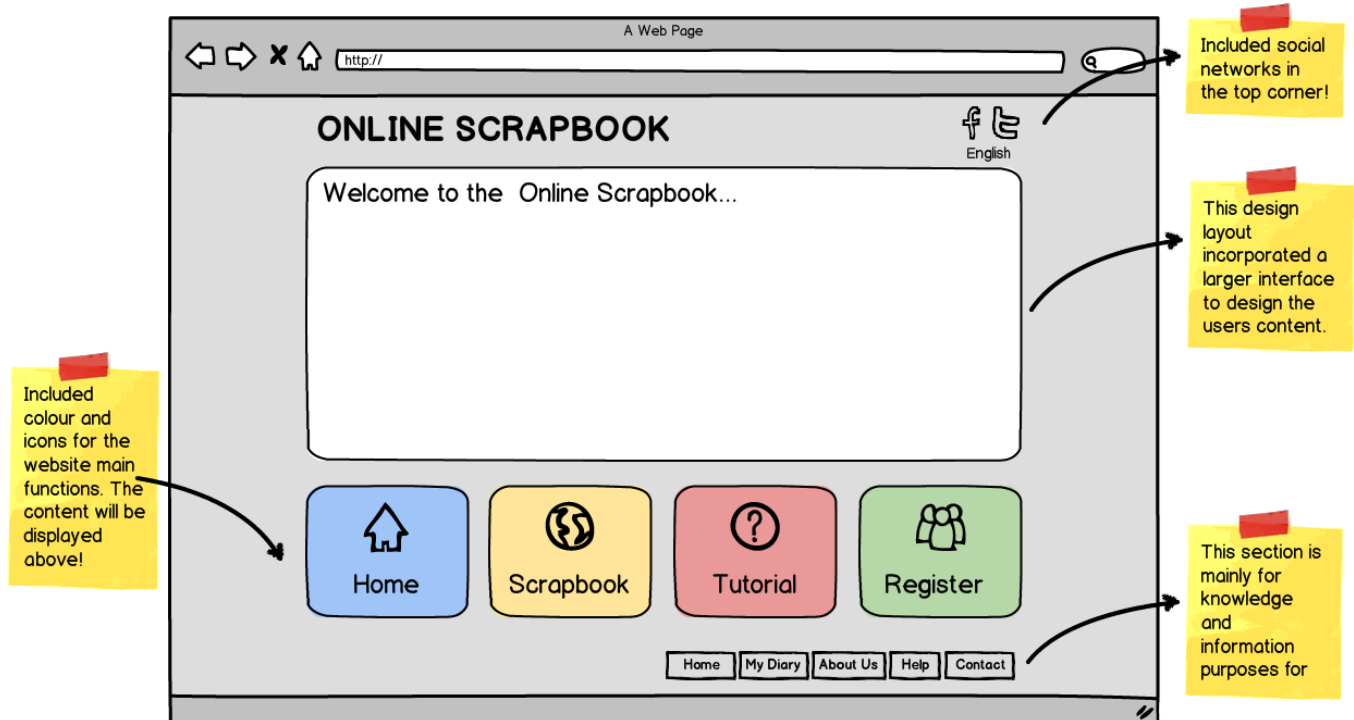


Figure 26 - Design 3

3.2.3 The Final Design

This is a draft design put together as a blueprint and prototype for the final system. The reason for creating a simple design is to ensure the functionality is operational and working correctly before improving the appearance. The menu system has been relocated underneath the title to allow users easy access to the information pages provided. In addition to this, the content bar in the middle has been made to expand depending on the page selected; this is an advantageous and useful feature as a page with little content does not require such a large box. Furthermore, the four main functions have been increased in size and displayed below the container; at this present moment there are no icons or boxes around these as this is just a site to perfect the functionality. Lastly, a copyright statement has been included in the bottom right corner to indicate to users that this is a final year project created by the developer.



Figure 27 - HTML Prototype Design

Requirements; functional and non-functional requirements for this project, as seen in the Interim Report have been moved to the Appendix. Modifications made to the requirements and additional requirements will be listed below. We have removed requirements [F8] and [F13] as they are too subjective and hard to evaluate effectively.

4.0 Implementation

4.1 Various Implementation Methods

Before beginning implementation, it is important to look at other methods of creating a website. Analysing the advantages and disadvantages will ensure the most practical method is adopted. This includes factors such as available templates, integration with Cardiff University project site and database. A table has been created to show the process adhered to when selecting an implementation method.

	Factors									
Method	Free	Templates	Hosting Space	Database Integration	Ease of Use	Tutorials Available	Social Media Integration	Custom Features	Knowledge Required	Additionally Features
Website Builders	YES	YES	YES	NO	HIGH	NO	YES	YES	NO	Various plugins
FrontPage	NO	YES	NO	NO	LOW	NO	YES	YES	NO	None
Dreamweaver	NO	YES	YES	NO	LOW	YES	YES	YES	NO	Various plugins
Word Press	YES	YES	NO	NO	HIGH	YES	YES	YES	NO	Blogging Integration
PHP	YES	YES	YES	YES	LOW	YES	YES	NO	YES	None
HTML5	YES	YES	YES	YES	HIGH	YES	YES	NO	YES	Format with CSS
Visual Basic	NO	YES	NO	NO	HIGH	YES	NO	YES	YES	Extra plugins

Dreamweaver is a website development application created by Adobe. It is the most widely used software for website design and creation; it allows you to produce powerful and a professional site. A reason for perhaps adopting Dreamweaver is the ability to able to create a website faster; it requires some knowledge, but the learning curve is not as high as hand coding. Dreamweaver also offers dynamic features through behaviours, such as JavaScript and database connection. Along with this, Dreamweaver is the easier software to use in terms of readability of the code; through highlighted colours, and including flash elements; this is generated for you through a drag and drop method.

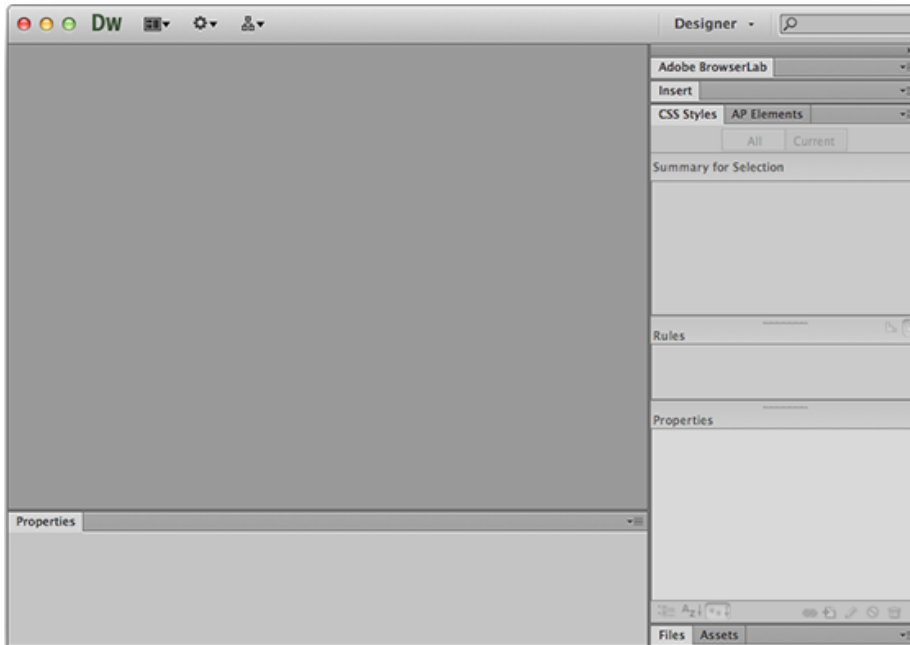


Figure 28 - Screenshot of Dreamweaver CS6

FrontPage is a Microsoft product that became one of the most widely used website design software. It is what you see is what you get editor and does not require you to have any HTML knowledge. Below is a screenshot of FrontPage to demonstrate what you are presented with.

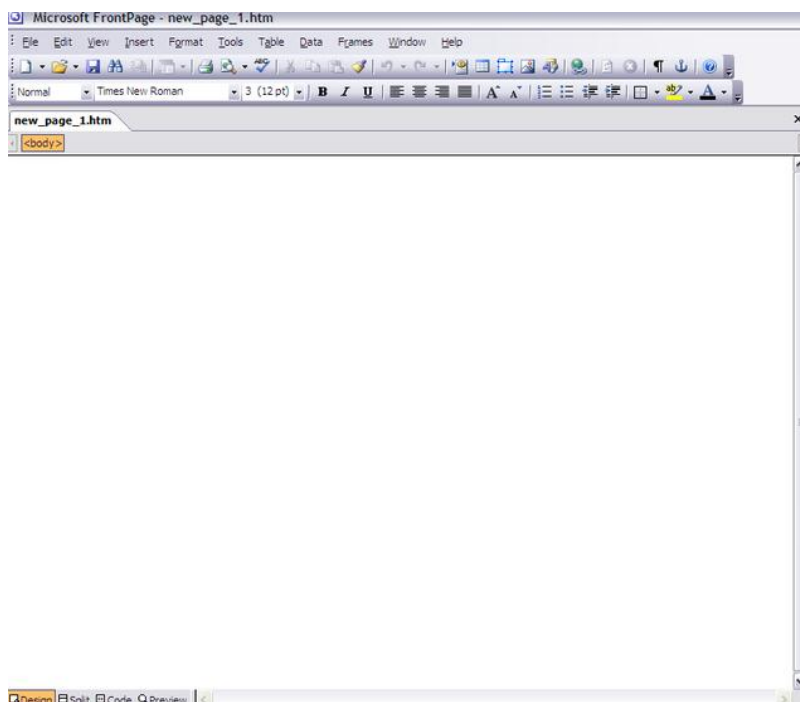


Figure 29 - Screenshot of FrontPage 2003

Word Press is the most popular blogging software social network. Within recent year, Word Press has also developed into a content management software choice for non-blogging websites. Word Press can have its functionality extended with the use of plugins, for example; Twitter feed and an event calendar is some extended functionality.

Home

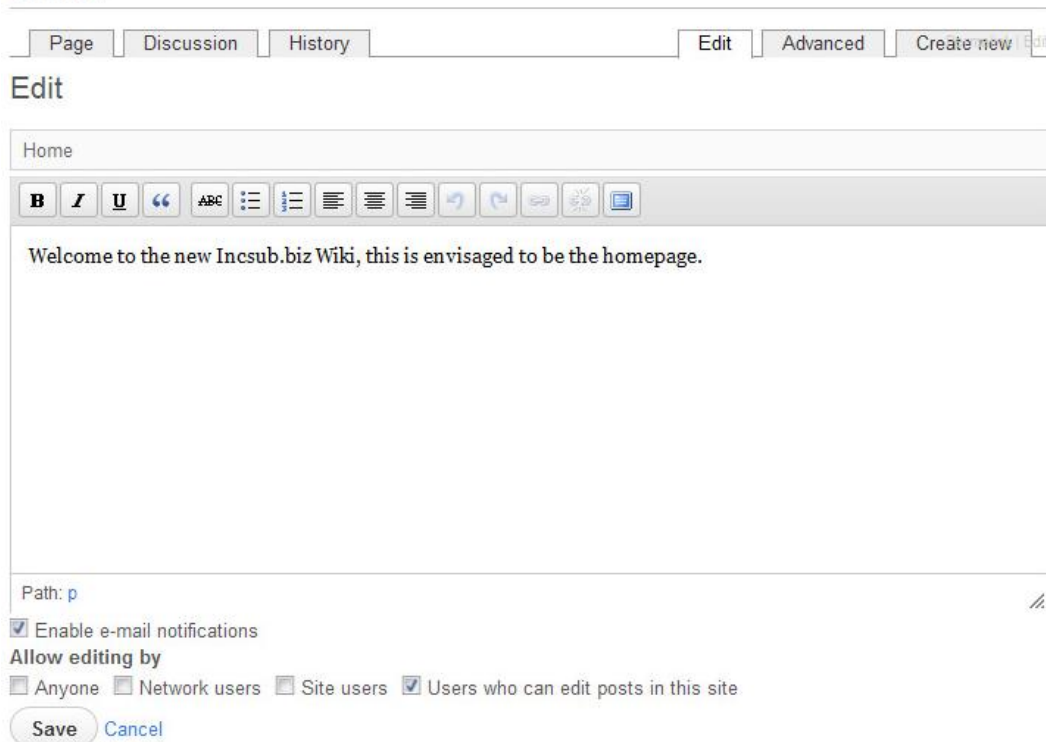


Figure 30 - Word Press Website screenshot

Website builders can vary slightly from definition but this is most popularly defined as an application you can use to build a website using a point and click style. These functional sites do not require any coding knowledge; it is just a matter of selecting a template and begins to create your personal site. You can choose from a variety of different tools, colour schemes, layouts and functional objectives. Moreover, once the site is finished, the website builder allows the upload of all files to your hosting space.

Hand Coding; although this is the hardest method, it is both the most rewarding and has the highest learning curve. The languages selected to do this is HTML, PHP and CSS. As discussed in the background implementation methods; these are the most up to date, popular web languages. They offer complete control and come with a heavy amount of resources and tutorials available. In terms of personal experience, we have undertaken a module in web design during first year, providing us with the basic in terms of creating a website.

4.2 Main Functionality

As mentioned in the background of this report, the main functionality involves creating an account and logging in; whilst having the availability to upload content such as photos or diary notes. In order to conduct a suitable and organised implementation, several techniques and tools were used. Firstly, the project had been broken down into **folders**; the benefit of separating documents is to improve organisation and the ability to quickly find a file if this needs editing.

Name	Date modified	Type
Scripts	05/05/2013 19:18	File folder
Images	09/03/2013 13:46	File folder
CSS	05/05/2013 19:18	File folder
Video	04/05/2013 17:01	PHP Script File
Scrapbook	04/05/2013 17:02	PHP Script File
Photo	05/05/2013 12:35	PHP Script File
Logout	01/05/2013 19:45	PHP Script File
Login	01/05/2013 12:26	PHP Script File
Home	05/05/2013 12:49	PHP Script File
Diary	05/05/2013 12:41	PHP Script File
Tutorial	01/05/2013 11:42	HTML Document
Register	05/05/2013 12:41	HTML Document
Help	04/05/2013 16:10	HTML Document
Contact	04/05/2013 16:51	HTML Document
About	04/05/2013 16:57	HTML Document

Figure 31 - Website Files

The files had been broken down into CSS, images, scripts, temporary 'upload' folder and the website files themselves. Another tool used for the implementation was Notepad++. This provided as the primary text editor for hand coding the website and will be shown in the screenshots below. Rather than demonstrating how each page was made, as this will be discussed and shown in the Viva examination, we have pointed out important parts or modules of code that define the website and its functionality.

Firstly, the screenshot below represents the **Home page**. This page is the hub of the website. The Home page cannot be accessed by users logged in to the system as this allows them to login again or register for another account. They can still gain access to every other page of the website. The code used is HTML; each element of the page has an ID; this ensures that CSS can be applied to that specific ID rather than the entire webpage. Other elements include the heading, represented by <h1> and the menu system, represented by which is a HTML list.

```

21 <header>
22   <h1 id="h1">Online Scrapbook</h1>
23   <!--This is the Menu System that has been moved from the bottom of the page to the top.
24   it is secondary to the 4 colourful bottoms-->
25 </header>
26
27 <ul id="menu2">
28   <li><a href="Home.php">Home</a></li>
29   <li><a href="Scrapbook.php">My Scrapbook</a></li>
30   <li><a href="About.html">About Us</a></li>
31   <li><a href="Help.html">Help</a></li>
32   <li><a href="Contact.html">Contact Us</a></li>
33 </ul>
34
35 <div id="boarder">
36   <p id="welcome">Welcome to the Online Scrapbook</p>
37   <p id="welcome">This is the website made for my Final Year Project that allows users to create persona
38 </div>
39   <!--FIND AN IMAGE TO PLACE HERE -->
40   <!--This is the main menu system to be used with logos and coloured boxes.-->
41   <ul id="menu">
42     <li><a href="Login.php">Login</a></li>
43     <li><a href="Register.html">Register</a></li>
44     <li><a href="Scrapbook.php">Scrapbook</a></li>
45     <li><a href="Tutorial.html">Tutorial</a></li>
46   </ul>
47
48 <footer>
49   <p id="copyright">© Jake Middleton - Final Year Project, 2013. <a href="About.html">Online Scrapbook</a></p>
50   <a href="logout.php">Log Out</a>
51 </footer>

```

Figure 32 - Home Page Code

Included in the footer is a copyright statement for the Online Scrapbook; this is a form of copyright protection and showing to potential users that this is a final year project website. This design is a very similar to the mock-up design by showing a container in the middle for the main content.

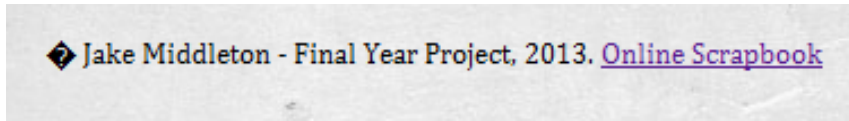


Figure 33 - Home Page Visualisation

In order to format the website, **CSS** has been used to add colour, style, font, alignment, etc to all different kinds of HTML elements. Below is a snippet of CSS code for the Home Page. As mentioned above, each section is broken down by ID; a neat method in keeping the CSS tidy and ensuring if any parts of the code has to be changed, this can be easily recognised.

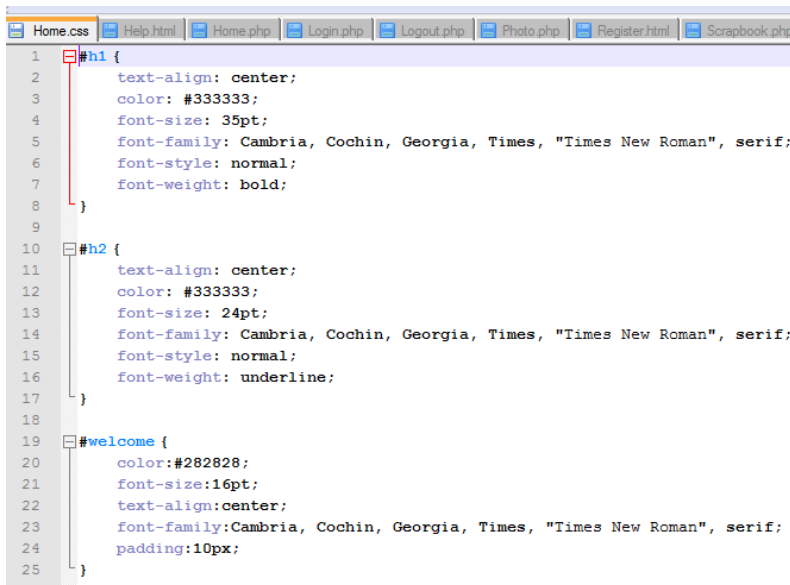


Figure 34 - Home Page CSS

Another demonstration of CSS in use is through the **Help page**. The help page is included to contain frequently asked questions by users. Each different answer is demonstrated by a different font colour and size. This is to improve reading ease and to easily distinguish between different questions.

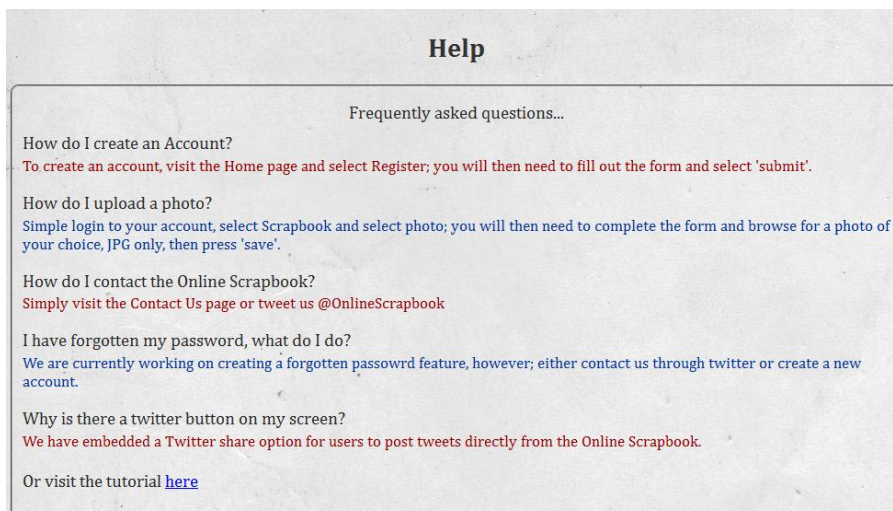


Figure 35 - Help page demonstrating CSS

The first main functionality for the user is the **registration page**. This allows for a personalised account and access to the Online Scrapbook. The screenshot below shows the register form; the form consists of a name, email address, username and password. There is a confirm password field but this does not get saved to the database, it is simply there as a form of validation to ensure they have entered a correct password.

```

</ul>
<h2 id="h2">Register</h2>
<div id="boarder">
  <p id="welcome">To register, please fill in the form below...</p>
  <div id="form">
    <form id="Register" action="reg_script.php" method="post" enctype="multipart/form-data">
      <p> Full Name: <input type="text" name="Fullname"> </p>
      <p> Email Address: <input type="text" name="Emailaddress"> </p>
      <p> Username: <input type="text" name="myUsername"> </p>
      <p> Password: <input type="password" name="myPassword"> </p>
      <p> Confirm Password: <input type="password" name="ConfirmPassword"> </p>
      <input type="submit" value="Register">
      <input type="reset" value="Cancel">
    </form>
  </div>
</div>

```

Figure 36 - Register Form

Figure 37 - Register Form

In terms of the coding, this has been reused before; due to the fact each different user input would require a form. This was greatly beneficial as it ensures we could save time by using previous code. It contains HTML elements such as a DIV; and <form>. The form has an ID which links to the appropriate script and contains the method: POST. There are two main methods; POST and GET, GET is used for retrieving data and POST is more or less used for sending or saving data to the database.

The next step is to show the registration script. This works by saving the inputted data from the form using the method POST, to the appropriate fields in the database table as specified. If the database table does not exist, the script will end. More to the point; the user password is encrypted using md5; a popular web encryption method. However, for the purpose of demonstrating the registration phases, this code has been commented out.

```

<?php
//This pulls information from the fields in the register form
$fullname = $_POST['Fullname']; //Fullname is the name of the textfield in the register form
$email = $_POST['Emailaddress'];
$username = $_POST['myUsername'];
$password = $_POST['myPassword'];

if($fullname && $email && $username && $password) //this checks to make sure that each of the variables have been filled, otherwise it'll show an error
{
    //seperate to this file is a file called db.php, in there contains the db connection script, whenever you need to connected to your database just include this line
    include "db.php";

    //password encryption
    $encryptedpassword = md5($password); //creates a variable called $encryptedpassword that encrypts the password taken from the form and performs the MD5 function on it.

    //script that inserts the data to the database
    $query = mysql_query("INSERT INTO tbl_members (id, fullname, email, username, password) VALUES (NULL, '$fullname', '$email', '$username', '$password')") or die(mysql_error());

    $registered = mysql_affected_rows(); //mysql_affected_rows() will inform you if a value has been inserted to the database

    echo $registered . " have been inserted"; //this is just to confirm that a row has been inserted to the database
}
else
{
    echo "You need to fill in all fields"; //error message incase all fields aren't filled.
}
}

```

Figure 38 - Register Script

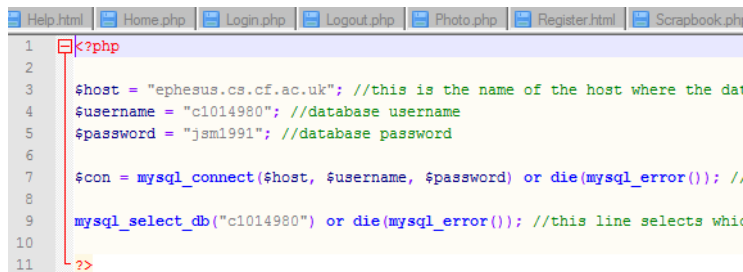
Once the data is saved into the database a message is displayed. The user is redirected to a blank page detailing that 1 record has been inserted into the database. However, if one or more fields were empty or not entered correctly; the code sends an error message informing the user they need to fill out all fields in the form. Below is a screenshot showing the database table and accounts inside. All of these accounts were made personally so there is no sensitive or disclosure of information.

The screenshot shows the phpMyAdmin interface for a MySQL database named 'c1014980'. The 'tbl_members' table is selected, and the 'Structure' tab is active. The table contains 6 rows of data. The SQL query editor shows a SELECT statement: 'SELECT * FROM `tbl_members` ORDER BY `tbl_members`.`fullname` ASC LIMIT 0, 30'. The table view shows columns: id, fullname, email, username, password. The data rows are as follows:

id	fullname	email	username	password
2	Jake Middleton	jakemiddy@email.com	jakemiddy	password
6	Jake Middleton	jakemiddy@email.com	Jake Middleton	Jake Middleton
1	Lucy Kelly	lkelly@email.com	LKelly	password
4	Money	money@email.com	Money	money
3	Sam Boyes	samboyes@email.com	SamB	password
5	Sam Jones	jones@email.com	Sam Jones	byere

Figure 39 - Database tbl_members

The second major functionality is the **login page**. There are several files that ensure this function can work correctly. Firstly, is a database script file that connects to the database provided by 'PHPMyAdmin'; a service from the school of computer science and informatics. The script connects to the host, automatically enters my personal university username and password; if these details are incorrect, the script stops, if the credentials are correct, the script connects to the database.



```

1 <?php
2
3 $host = "ephesus.cs.cf.ac.uk"; //this is the name of the host where the data
4 $username = "c1014980"; //database username
5 $password = "jsm1991"; //database password
6
7 $con = mysql_connect($host, $username, $password) or die(mysql_error()); //
8
9 mysql_select_db("c1014980") or die(mysql_error()); //this line selects whic
10
11 ?>

```

Figure 40 - Database Connection File

Below is a screenshot of the database to show which tables exist. More details about these tables will be shown further on.

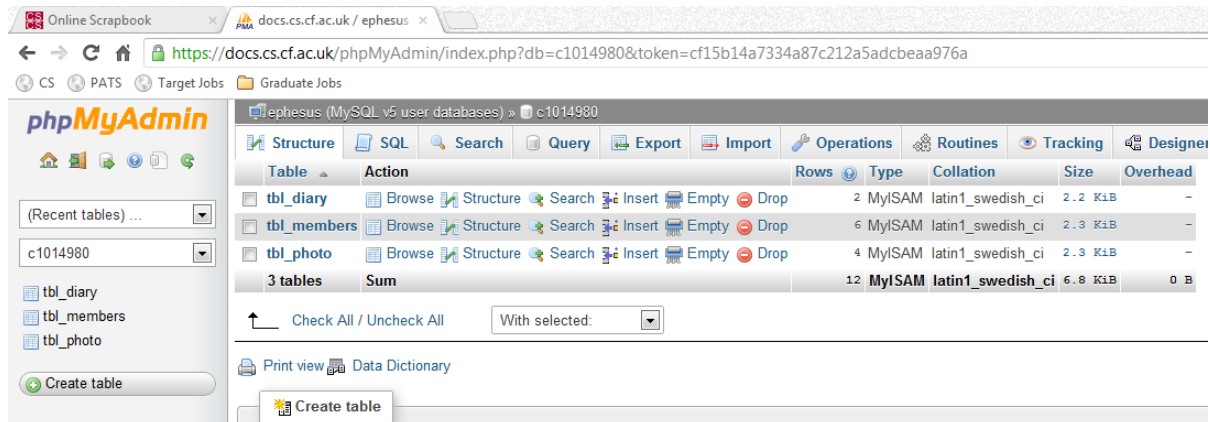
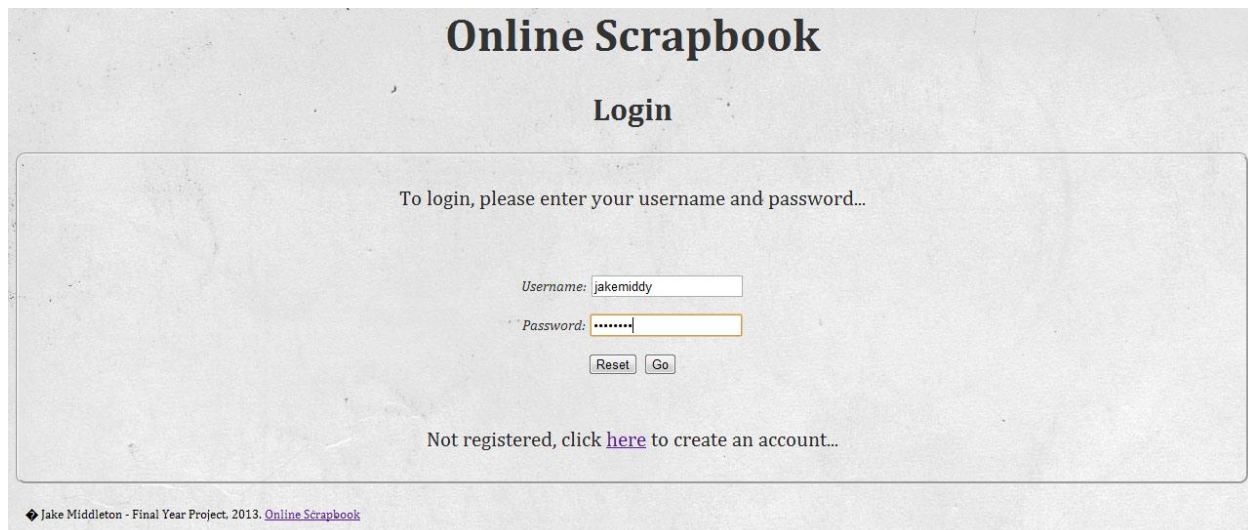


Table	Action	Rows	Type	Collation	Size	Overhead
tbl_diary	Browse Structure Search Insert Empty Drop	2	MyISAM	latin1_swedish_ci	2.2 KiB	-
tbl_members	Browse Structure Search Insert Empty Drop	6	MyISAM	latin1_swedish_ci	2.3 KiB	-
tbl_photo	Browse Structure Search Insert Empty Drop	4	MyISAM	latin1_swedish_ci	2.3 KiB	-
3 tables	Sum	12	MyISAM	latin1_swedish_ci	6.8 KiB	0 B

Figure 41 - Tables in Database

This is a visual representation of what the login page looks like. The user is presented with a username and password form. If they have not registered an account there is an option to do this. Another feature to note is the fact the user does not have access to anything else apart from the 'About Us' page as shown in the bottom left corner.



Online Scrapbook

Login

To login, please enter your username and password...

Username:

Password:

Not registered, click [here](#) to create an account...

◆ Jake Middleton - Final Year Project, 2013. [Online Scrapbook](#)

Figure 42 - Login

Once the script has connected to the database, it is important to show the login code. This contains a form for the user to fill in, username and password, and submit. These details get checked by the database and send a message back allowing the user to enter the system. Below is a cropped screenshot of the file; the form contains an ID; this ID is used along with a method; to POST the user input to the login script.

```

<header>
  <h1 id="h1">Online Scrapbook</h1>
  <h2 id="h2">Login</h2>
  <div id="boarder">
    <p id="welcome">To login, please enter your username and password...</p>
    <div id="form">
      <form id="Login" action="login_script.php" method="post">
        <p> Username: <input type="text" name="Username"> </p>
        <p> Password: <input type="password" name="Password"> </p>
        <input type="reset" value="Reset">
        <input type="submit" name="submit" value="Go">
      </form>
    </div>
    <p id="welcome">Not registered, click <a href="Register.html">here</a> to create an account...</p>
  </div>
</header>

```

Figure 43 - Login.php

The login script then connects to the appropriate database table; and checks to see if either this user exists or if they do not have an account. If they do not have an account, the script dies, if they do, the appropriate username and password fields are matched against the saved data in the database. As shown in the screenshot below, once the user's details are checked and posted back, they are redirected to the scrapbook page. Another key part of the code to point out is at the bottom of the screenshot, a session is created which is then used at a later date to include a logout function, as well as the username displayed on the website.

```

<?php
session_start();

$host="ephesus.cs.cf.ac.uk"; // Host name
$username="c1014980"; // Mysql username
$password="jsml1991"; // Mysql password
$db_name="c1014980"; // Database name
$table_name="tbl_members"; // Table name

mysql_connect("$host", "$username", "$password")or die("cannot connect");
mysql_select_db("$db_name")or die("cannot select DB");

// username and password sent from form
$myUsername=$_POST['Username'];
$myPassword=$_POST['Password'];

// To protect MySQL injection (more detail about MySQL injection)
$myUsername = stripslashes($myUsername);
$myPassword = stripslashes($myPassword);
$myUsername = mysql_real_escape_string($myUsername);
$myPassword = mysql_real_escape_string($myPassword);
$sql="SELECT * FROM $table_name WHERE username='$myUsername' and password='$myPassword'";
$result=mysql_query($sql);

// Mysql_num_row is counting table row
$count=mysql_num_rows($result);

// If result matched $myusername and $mypassword, table row must be 1 row
if($count==1){

  // Register $myusername, $mypassword and redirect to file "login_script2.php"
  /*session_register("username");
  session_register("password");*/
  mysql_close();
  $_SESSION['username']=$myUsername;
  header("location:Scrapbook.php");
}
else {
  echo "Wrong Username or Password";
}

```

Figure 44 - Login Script

Continuing from there the user is then displayed with the main Scrapbook page; this is due to the fact we wanted to skip a step and speed up the process in terms of allowing users to ability to upload content. There is still an option to return to the tutorial, help or about us page. The screenshot below shows the Scrapbook page with a session in place; see "Welcome! Jake middy"; shown in the top left corner. Additionally, a log out button is displayed at the bottom of the page to allow users the ability to log out once their content is uploaded.



Figure 45 - Demonstrating Username Display



Figure 46 – Logout

Once the **log out** button is selected, it runs the following code. Firstly, by destroying the current session in place; this is to allow new users to log in to their account. The Online Scrapbook then redirects the user to the Home page.

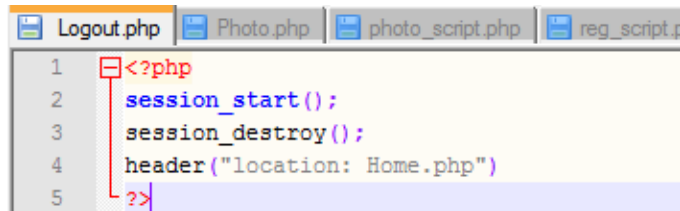


Figure 47 - Logout Code

The third and last major functionality is the photo **upload page**. For the purpose of this demonstration we have shown photo over diary note, but the code is almost identical for both. The screenshot below represents the form; it requests details such as album, photo name description, location, date and people included within the photo.

 A screenshot of a web form titled 'Photo'. The form contains the following elements:

- A heading 'Photo' and a sub-heading 'Upload photos, describe photos, create albums, tags friends, enter the time and location...'.
- A text input field labeled 'Create an Album'.
- A file upload section labeled 'Photo:' with a 'Choose File' button and the text 'No file chosen'.
- A text input field labeled 'Give your Photo a name:'.
- A text area labeled 'Write a description of the photo:'.
- A dropdown menu labeled 'Where was this Photo taken?' with options: Europe, Asia, Africa, North America.
- A text input field labeled 'When was this Photo taken?' with a date format hint '--/--/--'.
- A text input field labeled 'Tag people:'.
- 'Reset' and 'Save' buttons at the bottom.

Figure 48 - Photo Form

```
<h2 id="h2">Photo</h2>

<div id="boarder">
  <p id="welcome">Upload photos, describe photos, create albums, tags friends, enter the time and location...</p>
  <div id="form">
    <form id="Photo" action="photo_script.php" method="post" enctype="multipart/form-data">
      <p> Create an Album <input type="text" name="Album"> </p>
      <p> Photo: <input type="file" name="file"> </p>
      <p> Give your Photo a name: <input type="text" name="Name"> </p>
      <p> Write a description of the photo: <br> </p>
      <textarea name="Description" rows="5" cols="50"> </textarea> </p>
      <p> Where was this Photo taken? <br> </p>
      <select multiple name="Location" size="3">
        <option value="Europe">Europe</option>
        <option value="Asia">Asia</option>
        <option value="Africa">Africa</option>
        <option value="North America">North America</option>
        <option value="South America">South America</option>
        <option value="Australia">Australia</option>
      </select> </p>
      <p> When was this Photo taken? <input type="text" name="Date" value="--/--/--"> </p>
      <p> Tag people: <input type="text" name="Tag"> </p>
      <input type="reset" value="Reset">
      <input type="submit" value="Save">
    </form>
  </div>
</div>

!--This is the main menu system to be used with logos and coloured boxes.-->
```

Figure 49 - Photo Form Code

Once the form has been filled in correctly and linking to the appropriate script; the photo script will run. This is shown in the screenshot below. This works by checking if the variables have been filled in, otherwise an error will display informing the user that there are fields that are empty. After, the script begins to enter the data into the database linking to the corresponding table. If this is successful, the system will print out a message informing the user their details have been saved successfully. In terms of saving the photo to the database; the first stage is a file name, type and size is partially saved to a temporary file in a folder called 'Upload'. From there, if this file already exists an error will inform the user that they have attempted to upload the photo twice. Once this stage has completed, the temporary image file will be moved from the Upload folder to the database.

```

3<?php
//This pulls information from the fields in the register form
$album = $_POST['Album'];
$photo = $_POST['file'];
$name = $_POST['Name'];
$description = $_POST['Description'];
$location = $_POST['Location'];
$date = $_POST['Date'];
$tag = $_POST['Tag'];

if($album == $name == $description == $location == $date == $tag) //this checks to make sure that each of the variables have been
{
    //separate to this file is a file called db.php, in there contains the db connection script, whenever you need to connected to
    include "db.php";

    //script that inserts the data to the database
    $query = mysql_query("INSERT INTO tbl_photo (id, album, photo, name, description, location, date, tag) VALUES (NULL, '$album',
    $uploaded = mysql_affected_rows(); //mysql_affected_rows() will inform you if a value has been inserted to the database

    echo $uploaded . " have been inserted"; //this is just to confirm that a row has been inserted to the database

    if ($FILES["file"]["error"] > 0)
    {
        echo "Return Code: " . $FILES["file"]["error"] . "<br>"; //file is the name of the upload file from the form
    }
    else
    {
        echo "File Name: " . $FILES["file"]["name"] . "<br>"; //gives the file name
        echo "Type: " . $FILES["file"]["type"] . "<br>"; //gives the file type
        echo "Size: " . ($FILES["file"]["size"] / 500000) . " KB<br>"; //gives the file size
        echo "Temp file: " . $FILES["file"]["tmp_name"] . "<br>"; //gives the name of the temp file

        if (file_exists("upload/" . $FILES["file"]["name"]))
        {
            echo $FILES["file"]["name"] . " already exists. ";
        }
        else
        {
            move_uploaded_file($FILES["file"]["tmp_name"],
            "upload/" . $FILES["file"]["name"]);
            echo "Stored in: " . "upload/" . $FILES["file"]["name"];
        }
    }
}
else
{
    echo "You need to fill in all fields"; //error message incase all fields aren't filled.
}

```

Figure 50 - Photo Script

Proof of these error messages are shown in the two screenshots below; informing the user all fields have not been completed field and to inform them a photo has successfully uploaded (1 record).

Notice: Undefined index: Location in /usr/local/www/project/J.S.Middleton/FYP/photo_script.php on line 8
 You need to fill in all fields

Figure 51 - Error, fill in all fields

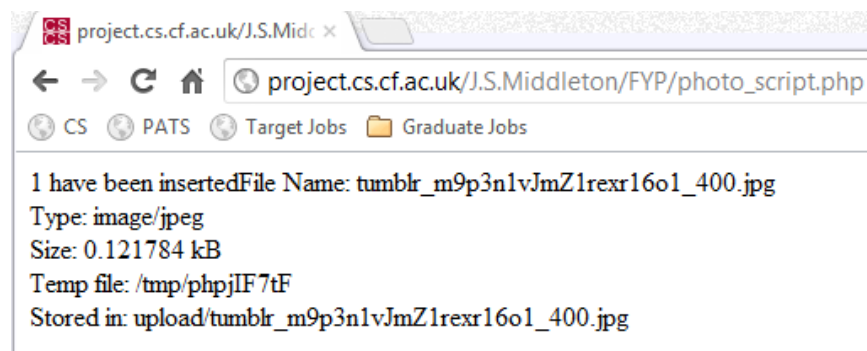


Figure 52 - Photo Upload Success

The last stage of this process is to show the saved record in the database. One thing to point out is the photo does not contain a file size. Unfortunately, after several tests and questions asked, we were unable to interpret why this is the case, as the photo successfully saves to the temporary folder.

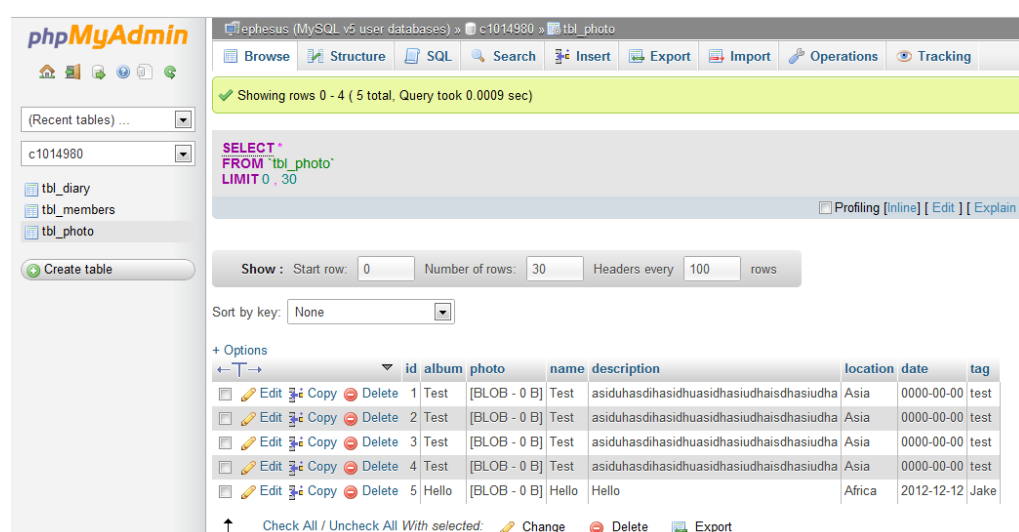


Figure 53 - Database tbl_photo

The Online Scrapbook allows users to tweet directly to '@OnlineScrapbook' or through their own personal tweets. This has been implemented through the use of Twitter's application programmable interface, otherwise known as API. Originally, users would be able to directly share their diary notes or notes; however due to countless difficulties a word around has been created to offer users the ability to tweet about anything. Consequently providing its own advantages; encouraging users to stay within the Online Scrapbook to do all their social networking tasks.

Button Size

The size of the button can render in either "medium", which is the default size, or in "large" - which is the larger button. The iFrame version of the Tweet Button is set using the size attribute, while the Javascript Tweet Button uses the data-size property. An example of what the button if size is set to large is below.

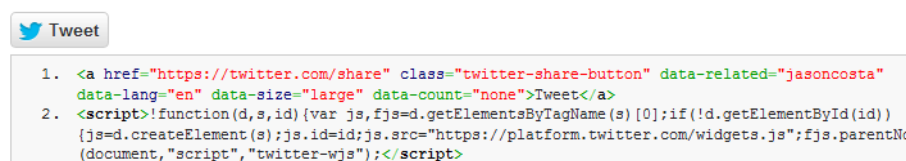


Figure 54 - Twitter API; embedding tweet button (Developers, 2013)

The screenshot above represents the code provided by Twitter developers. In order to implement the tweet button, we simply add the JavaScript code (#2) below the <body> element of the HTML file, and add a reference to the button where this would like to be located. This is demonstrated in the Diary page code below.

```

<div id="boarder">
  <p id="welcome">For the more traditional scrapbookers, create a diary of your life... Alternatively, tweet to friends using the link below.</p>
  <div id="form">
    <div id="twttershare">
      <a href="https://twitter.com/share" class="twitter-share-button" data-related="jakemiddy:The Online Scrapbook" data-lang="en" data-size="large" data-c
    </div>
    <script>!function(d,s,id){var js,fjs=d.getElementsByTagName(s)[0];if(!d.getElementById(id)){js=d.createElement(s);js.id=id;js.src="https://platform.tw
    </div>
    <form id="UploadDiary" action="diary_script.php" method="post" enctype="multipart/form-data">
      <p> Title: <input type="text" name="Name"> </p>
      <p> Date: <input type="text" name="Date" value="--/--/--"> </p>

```

Figure 55 - Diary Page Code for Tweet Button

The reason for implementing this tweet button in the Diary page is to allow users the option of either saving their diary note to the database or to directly Tweet using their individual accounts for all friends to see.



Figure 56 - Visualisation of Twitter button

Adding on, Twitter offers another embedded button option to follow user accounts. This has been used to our advantage to directly allow potential users of the system the option to follow '@OnlineScrapbook or tweet directly with any questions or feedback. The screenshot below shows this on the website.



Figure 57 - 'Tweet to' Button

Together with this, we decided to incorporate one of the most popular social networking sites, Facebook. After failing to incorporate a Facebook login, we looked at the use of a like button or share option. The first step in doing so was to create a group Facebook page; this allows users to like, share content, interact with each other and support the Online Scrapbook. The screenshot below represents the created group; please note: this was created purely to demonstrate functionality.



Figure 58 - Facebook Page for Online Scrapbook

Once the group is created, Facebook uses <iframe>; an inline frame is used to embed another document within the current HTML document. (W3schools, 2013). This can be implemented directly into the code. The like button shows a preview of who has liked the Online Scrapbook Facebook page. The screenshot below shows the code used and the tutorial provided by Facebook.

Social Plugins

Social Plugins are the easiest way to get started with Facebook Platform. The plugins are embeddable social features that can be integrated in your site with a line of HTML. Because they are hosted by Facebook, the plugins are personalized for all users who are currently logged into Facebook, even if they are visiting your site for the first time.

The most important Social Plugin is the Like Button, which enables users to share your page with their friends with one click. You can add a Like button to any page with an `iframe` tag:

```
<html>
<head>
<title>My Great Web page</title>
</head>
<body>
<iframe src="https://www.facebook.com/plugins/like.php?href=YOUR_URL"
scrolling="no" frameborder="0"
style="border:none; width:450px; height:80px"></iframe>
</body>
</html>
```

There are a number of options for the Like Button, including the option to include the names and profile pictures of the user's friends who have also liked the page. Here is a Like Button for the Facebook Developers site:

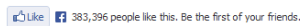


Figure 59 - Facebook Like

The screenshot below demonstrates a visual representation of what the like button looks like. However, the only problem encountered is the ability to move the layout of the like button to the middle.

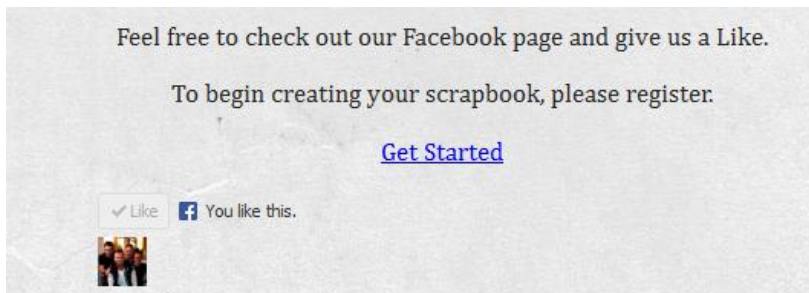


Figure 60 - Facebook Like on the Online Scrapbook

We have integrated this link within our Contact Us page. This is to provide the users with another option to contact the Online Scrapbook. The screenshots below represent this:

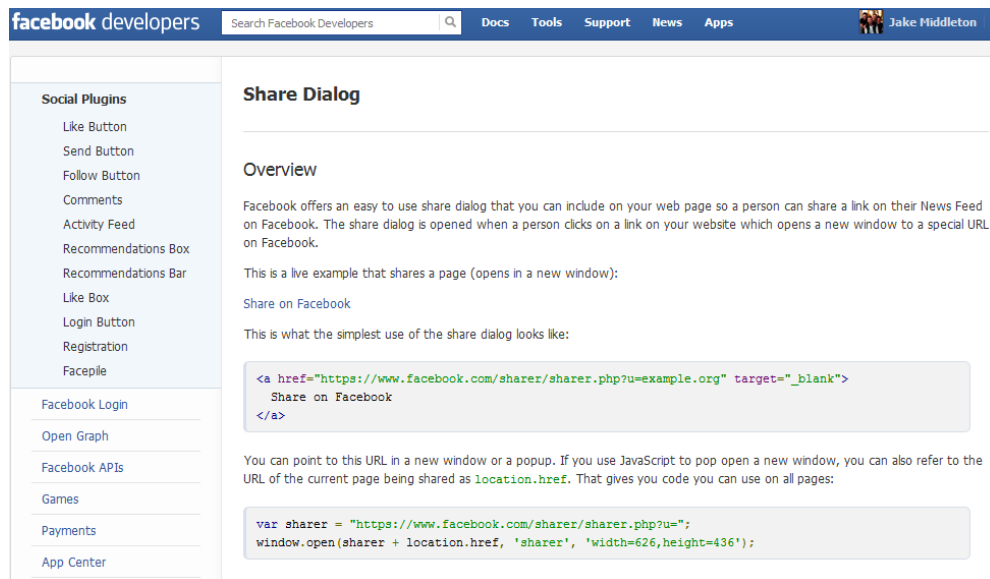


Figure 61 - Contact us; Facebook profile link



Figure 62 - Redirected to the Online Scrapbook Facebook Page

The last part of our use of API's is Facebook sharing. This allows users to leave a direct status from the Online Scrapbook to their respected Facebook profiles. Below is the code used to achieve this; working similarly to Twitter, using JavaScript and a reference to the Facebook website.



facebook developers Search Facebook Developers Docs Tools Support News Apps Jake Middleton

Social Plugins

- Like Button
- Send Button
- Follow Button
- Comments
- Activity Feed
- Recommendations Box
- Recommendations Bar
- Like Box
- Login Button
- Registration
- Facepile

Facebook Login

Open Graph

Facebook APIs

Games

Payments

App Center

Share Dialog

Overview

Facebook offers an easy to use share dialog that you can include on your web page so a person can share a link on their News Feed on Facebook. The share dialog is opened when a person clicks on a link on your website which opens a new window to a special URL on Facebook.

This is a live example that shares a page (opens in a new window):

[Share on Facebook](#)

This is what the simplest use of the share dialog looks like:

```
<a href="https://www.facebook.com/sharer/sharer.php?u=example.org" target="_blank">
  Share on Facebook
</a>
```

You can point to this URL in a new window or a popup. If you use JavaScript to pop open a new window, you can also refer to the URL of the current page being shared as `location.href`. That gives you code you can use on all pages:

```
var sharer = "https://www.facebook.com/sharer/sharer.php?u=";
window.open(sharer + location.href, 'sharer', 'width=626,height=436');
```

Figure 63 - Facebook Sharing code

This functionality has been included in the About Us page; enabling members to share the Online Scrapbook Facebook page for all their friends to see. The decision to not include this on Diary, Photo or the Video page is due to the fact it provided no advantage to users, but leaving direct feedback and attracting more potential users to the Online Scrapbook is a huge bonus.

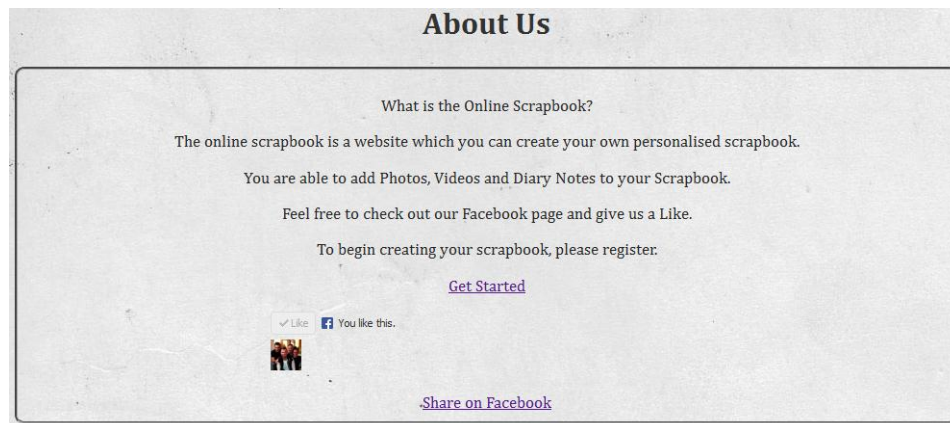


Figure 64 - Visual representation of 'Share on Facebook'

The screenshot below represents the dialog box upon selecting 'Share on Facebook'.

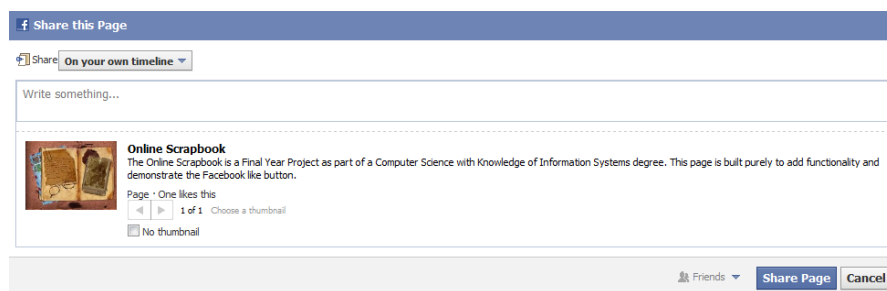


Figure 65 - Share on Facebook demonstration

5.0 Testing

Testing is a vital process of ensuring the finished application works correctly. All tests developed should be traceable to the user requirements; this is to ensure the system meets their needs. Testing involves validation; “are we building the right product?” and verification; “are we building the product right?” it is important to distinguish between the two in order to success in testing. Throughout this testing section; we have integrated the use of; validation and acceptance test cases, integration test cases and unit test cases. All implemented to ensure the system meets the needs of users, each component has been assembled correctly and to test any algorithms used.

5.1 Test Plan

Below is the template to be used for testing, repeated from the Interim report. See Appendix section for all test cases.

Test Case ID:		Test Purpose:	
Environment:			
Pre-Conditions:			
Test Case Steps:			
Step Number:	Procedure:	Response:	Pass or Fail:
Comments:			
Related Tests:			
Author:		Checkers:	Date:

5.2 Test Results

Testing involved carrying out the test cases as shown in the Appendix. Overall, almost every single test had passed successfully, this is due to the fact the system had less functionality than originally anticipated, as explained in the reflection. This enabled testing to be completed faster and this problem occurred. Details of vital tests and the tests that failed are to be shown below.

Test Case ID: 4; Content		Test Purpose: To ensure all content is up to date.	
Environment:	Windows 8		
Pre-Conditions:	None		
Test Case Steps:			
Step Number:	Procedure:	Response:	Pass or Fail:
1.	Check if the contact details are up to date as of the present moment.	All content updated as of 02/05/13	PASS
2.	Check if the 'about us' section is relevant to the website and the functionality it offers.	All content updated as of 02/05/13	PASS
3.	Check the help page to ensure the guides provided are complete and up to date in terms of the finished website.	All content updated as of 02/05/13	PASS
3.	Ensure the tutorial video demonstrates the final version of the Online Scrapbook.	No tutorial video present.	FAIL
Comments:			
The tutorial video has not been included into the website as of 02/05/13 so this test fails.			
Related Tests:			
Author: Jake Middleton	Date: 02/05/13	Checkers: Josh Harman, Sam Boyes	Date:02/05/13

This test involved watching the tutorial video. However, due to the fact this had not been created, the test automatically failed. The website is being improved in the time before the VIVA examination so we wanted to wait to create a video tutorial until then. Its replacement is a single step by step guide teaching the users how to create an account and set up a personal scrapbook.

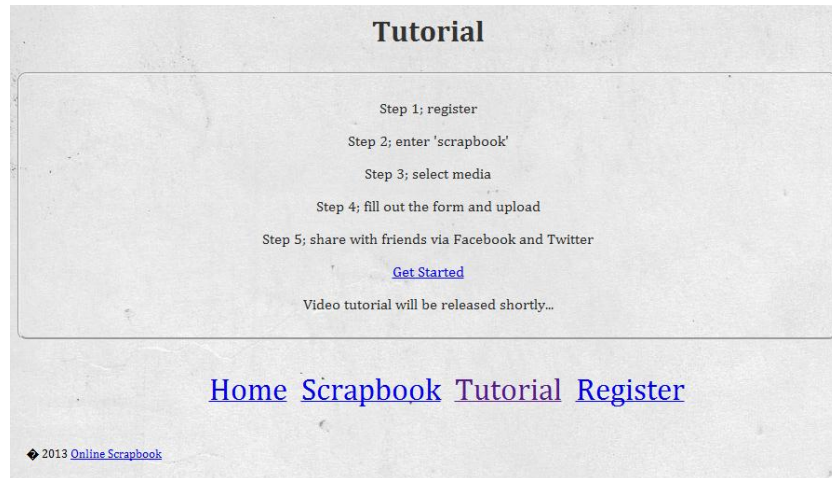


Figure 66 - Current Tutorial

Test Case ID: 7; Menu System		Test Purpose: Ensure menu system is working correctly, does not contain broken links, and corresponds to the appropriate pages and changes depending on which part is selected.	
Environment:	Windows 7		
Pre-Conditions:	None		
Test Case Steps:			
Step Number:	Procedure:	Response:	Pass or Fail:
1.	Open the Online Scrapbook		
2.	Visit the home page and view the menu; should display home, scrapbook, about us, help, contact us.	All links displayed.	
3.	Select each link to view appropriate page		
4.	The page selected should change colour, write this down.	Link changes colour but not in intended way.	PASS
Comments:			
The website successfully displayed all links. The colour changing system did not work correctly but changed colour as if it was a hyperlink.			
Related Tests:			
Author: Jake Middleton	Date: 02/05/13	Checkers: Sam Boyes, David Manwaring	Date:02/05/13

The next test, shown in the case above, involved ensuring the buttons effectively change colour once selected. In the CSS file, provided in the source code (appendix), ensured that both menu systems would remain black until selected; therefore changing to red to show the user that this is the current function they are on. However, due to the fact that each of these links included hyperlinks to other pages, this changes the font style to a more family blue underline. The code is <text-decoration:none> which removes this blue underlined font style; however after multi attempts at trying to fix this, the style remained the same. The reason this test had been documented as a PASS is because the font colour does slightly change. See the screenshot below:



Figure 67 - Menu Colour

Test Case ID: 14; Browser Compatibility		Test Purpose: To ensure the website is compatible with all browsers.	
Environment:	Windows 7		
Pre-Conditions:			
Test Case Steps:			
Step Number:	Procedure:	Response:	Pass or Fail:
1.	Load the website in Google Chrome		PASS
2.	Load the website in Firefox		PASS
3.	Load the website in Internet Explorer		PASS
4.	Load the website in safari.		PASS
5.	Note display characteristics of each; should be laid out all the same. Try rearranging the browser size.	Display all the same. No changes.	
Comments:			
Each website handled the Online Scrapbook almost identically. The only noticeable different were the loading speeds.			
Related Tests:			
Author: Jake Middleton	Date: 02/05/13	Checkers: Sam Boyes, David Manwaring	Date:02/05/13

Browser compatibility is a vital part to the use of the website; as each different user will have a different browser installed. This test involved simply loading the Online Scrapbook and exploring with rearranging the window size to see if there are any noticeable changes. The test was successful and therefore past but it is important to demonstrate and prove this with screenshots as shown below.

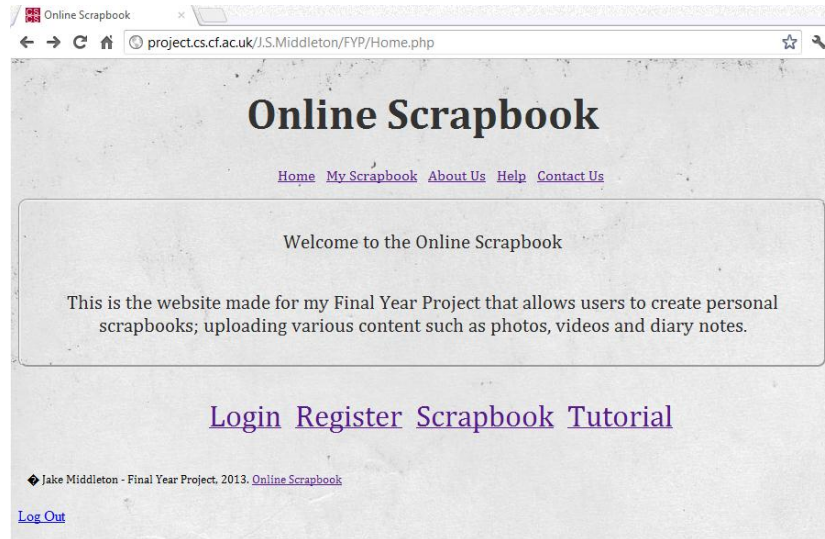


Figure 69 - Google Chrome



Figure 68 - Mozilla Firefox



6.0 Results and Evaluation

6.1 Usability Testing Method

The method of usability testing as stated in the Interim report has some what changed throughout the implementation phase of the final project. We have decided to use survey monkey, as shown in ‘Testing methods’ at the beginning of the report. The environment will still remain the same; a laptop computer will contain the Online Scrapbook, Facebook, Instagram and Smilebox. This is to allow the users to gain a feel of the created website and its competitors. Furthermore, survey monkey will allow for the analysis stage to be undertaken at a faster rate as the results can be exported straight into a spreadsheet.

The questions of the tests are shown in the screenshots below. They contain a three to five point scales as shown in (Chen & Singh, 2001) to be the most successful in obtaining useful data. Additionally, two surveys have been created; one containing background information about the users travelling habits and use of internet, the second; containing information and opinions about the Online Scrapbook with comparisons to Facebook, Instagram and SmileBox.

6.1.1 Survey 1; User Background Information

User Background Information

***1. On a yearly basis, how often do you travel?**

☐ Never

☐ 1-2

☐ 3-5

☐ 5+

***2. Whilst travelling, how often do you use the Internet?**

☐ Very often

☐ Often

☐ Once or Twice

☐ Never

***3. Whilst travelling, how much time do you spend on the Internet?**

☐ Never

☐ 5-10 minutes

☐ 30 minutes

☐ 1 hour

☐ 2-3 hours

☐ 3+ hours

4. Through which technology do you use to access the Internet?

☐ Desktop Computer

☐ Laptop

☐ Tablet

☐ Phone

Other (please specify)

***5. Whilst using the Internet abroad, what sites are you most likely to visit?**
Examples could include sites such as Facebook, News, Twitter, Email, etc.

Figure 70 - Survey 1 - User Background Information

6.1.2 Survey 2; Website Feedback

Online Scrapbook; Website Feedback

***1. After reviewing the design above, how likely are you to explore the Online Scrapbook?**

- ☐ Extremely likely
- ☐ Very likely
- ☐ Moderately likely
- ☐ Slightly likely
- ☐ Not at all likely

***2. How engaging is the design of the website?**

- ☐ Extremely engaging
- ☐ Very engaging
- ☐ Moderately engaging
- ☐ Slightly engaging
- ☐ Not at all engaging

***3. What improvements would you make to the design of the website?**

***4. How well does the website communicate the idea of an Online Scrapbook?**

- ☐ Extremely well
- ☐ Very well
- ☐ Moderately well
- ☐ Slightly well
- ☐ Not at all well

***5. Describe your emotions, when using the following features of the Online Scrapbook?**

	Happy	Neutral	Sad
Navigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Usability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Functionality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Page Layout	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Graphics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contact Information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutorial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help Page	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***6. In terms of the following key features, please rate how they compare to Facebook?**

	Excellent	Average	Poor
Usability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uploading Content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Navigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help/Tutorial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***7. In terms of the following key features, please rate how they compare to Instagram?**

	Excellent	Average	Poor
Usability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uploading Content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Navigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help/Tutorial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***8. In terms of the following key features, please rate how they compare to SmileBox?**

	Excellent	Average	Poor
Usability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uploading Content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Navigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Help/Tutorial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***9. How likely are you to recommend the Online Scrapbook to someone you know?**

- ☐ Extremely likely
☐ Very likely
☐ Moderately likely
☐ Slightly likely
☐ Not at all likely

***10. What else would you like to see included in the Online Scrapbook?**

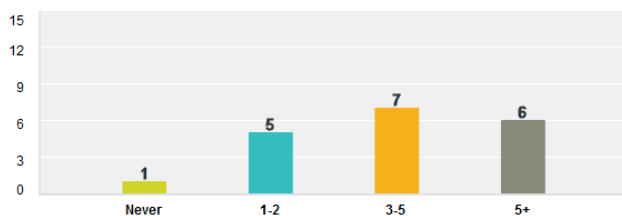
Figure 71 - Survey 2 - Website Feedback

6.1 Usability Testing Results

Below are screenshots taken from the surveys provided as part of the usability tests. Please note: the results could not be exported directly from survey monkey as this required a premium account. Nevertheless, included within these graphs is a data table containing percentages of certain outcomes.

On a yearly basis, how often do you travel?

Answered: 19 Skipped: 0



Answer Choices	Responses	
Never	5.26%	1
1-2	26.32%	5
3-5	36.84%	7
5+	31.58%	6
Total		19

Figure 72 – How often do you travel?

The screenshot above represents the first survey, acquiring background information from each example user. From these results, you can see that the vast majority of people assessed travel more than twice a year. This is a positive in terms of acquiring accurate information as this suggests these users are more than likely to be attracted to a traveller's online application. The second question of this user background survey involves their activity on the internet. A high percentage, as represented by the green and blue, shows users often use the internet whilst abroad. Whilst looking through the individual questionnaires, there was a key correlation between users spending more time on the internet and how interested they were in using an online scrapbook application.

Whilst travelling, how often do you use the Internet?

Answered: 19 Skipped: 0



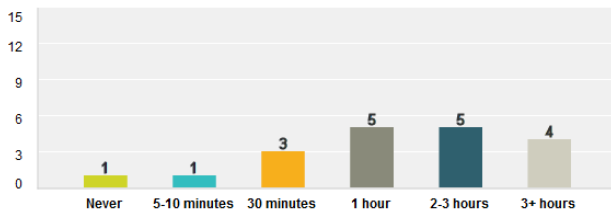
Answer Choices	Responses	
Very often	36.84%	7
Often	31.58%	6
Once or Twice	26.32%	5
Never	5.26%	1
Total		19

Figure 73 – How often do you use the Internet?

Supplementary to the previous question, the next involved averaging how much time users tend to spend on the Internet whilst travelling. What we were looking for is a high percentage of users over 30 minutes; this is due to the fact it would allow the application enough time to fulfil their needs in terms of uploading content and saving this to the database. We found that users under this amount of time were either non internet uses or just primarily used this to find a hotel or search for a location on Google maps. A tag cloud has been included further on in this evaluation which shows a range of applications used when accessing the internet.

Whilst travelling, how much time do you spend on the Internet?

Answered: 19 Skipped: 0



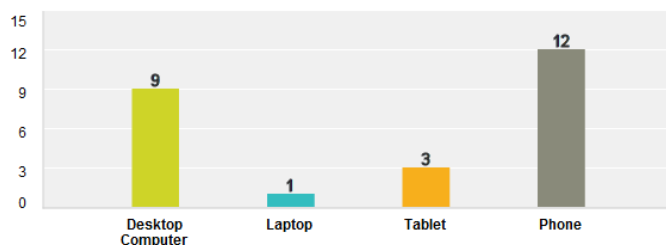
Answer Choices	Responses	
Never	5.26%	1
5-10 minutes	5.26%	1
30 minutes	15.79%	3
1 hour	26.32%	5
2-3 hours	26.32%	5
3+ hours	21.05%	4
Total		19

Figure 74 – How much time do you spend on the Internet?

More to the point, it was important to note that most users use their smart phones to access the internet. The Online Scrapbook has already been identified as a laptop or desktop website application. However, future work includes incorporating and implementing a smart phone application so users can upload content on the move. A positive 63% have shown the main form of internet access whilst abroad is through smartphone; showing an opportunity for this future feature.

Through which technology do you use to access the Internet?

Answered: 19 Skipped: 0



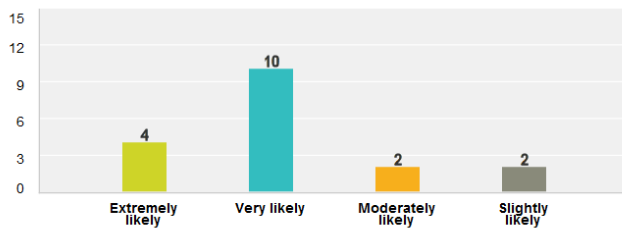
Answer Choices	Responses	
Desktop Computer	47.37%	9
Laptop	5.26%	1
Tablet	15.79%	3
Phone	63.16%	12
Total Respondents: 19		

Figure 75 – Through which technology do you use to access the Internet?

The next set of questions details the user's emotions in terms of using the online scrapbook. A short demonstration was provided to showcase the functionality of the site, and each user was then allowed to free roam around the site generating individual opinions.

After reviewing the design above, how likely are you to explore the Online Scrapbook?

Answered: 18 Skipped: 0



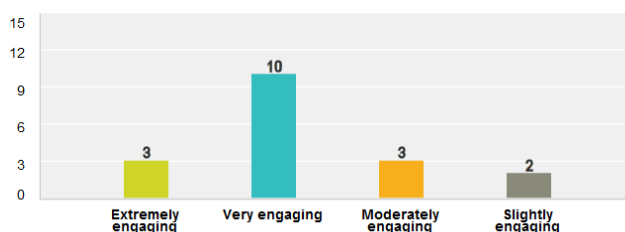
Answer Choices	Responses	
Extremely likely	22.22%	4
Very likely	55.56%	10
Moderately likely	11.11%	2
Slightly likely	11.11%	2
Total		18

Figure 76 – How likely are you to explore the Online Scrapbook?

The first result is very positive as it shows 78% of users wanting to progress in terms of the Online Scrapbook. Although this question does not focus on functionality or direct usability, it is important to know the user is intrigued to carry on. If this showed a negative figure, it would mean important adjustments would have to be made to the website to make this more appealing.

How engaging is the design of the website?

Answered: 18 Skipped: 0



Answer Choices	Responses	
Extremely engaging	16.67%	3
Very engaging	55.56%	10
Moderately engaging	16.67%	3
Slightly engaging	11.11%	2
Total		18

Figure 77 –How engaging is the design of the website?

This question above focuses on the design. The reason for including this question is to acquire first impressions of the website. As the results show, this is a very positive outcome, with 55% very engaging and 16% extremely engaging. After looking at the individual results, the 11% slightly engaging made a comment, in the improvements section, about the lack of colour and the fact that is site is not something they will look to be using whilst abroad. These results have further cemented confidence in the site and its overall design.

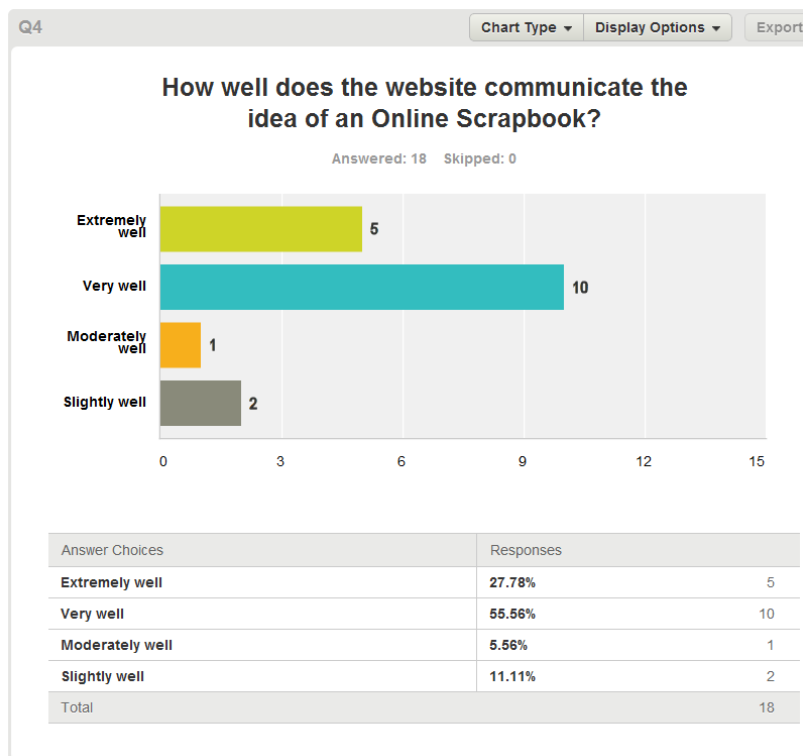


Figure 78 – How well does the website communicate the idea of an Online Scrapbook

Exceeding this, another important aspect is how well the Online Scrapbook interconnects the idea and defines itself. This is another positive response with 83% stating the website communicates very and extremely well. This has encouraged and shown me that potential users are not treating this as an addition to Facebook, rather than a totally different service and experience. We have decided to ignore the low majority due to the fact this isn't a high enough percentage to influence a change.

The screenshot below focuses on the most significant question of this usability testing; the characteristics of the website and emotions involved with each of these. Firstly, the diagram does not effectively represent the user's emotions; 1 refers to happy, 2 are neutral and 3 refer to sad. Before previewing the results, we decided to rank these characteristics in terms of importance. This included usability, performance, navigation and help. The reason being is the Online Scrapbook is purely focused around being able to find and upload content quickly and with ease.

Usability provided a favourable ranking of 1.28; this shows the majority of users were happily with the ease of use and how the site feels to use as a service. Additionally, navigation and performance showed a 1.33, with 80% of users saying they were happy with the amount of clickable buttons and the speed as to which the website was loading. This is due to the fact there is not any detailed graphics or large images.

However, important factors to point out are the security, functionality, page layout and graphics. Although most of these results are justifiable, lessons can still be learnt from how other characteristics have succeeded. A ranking of 1.94 for security, being neutral and sad, suggested that users felt a simple login and password was not sufficient enough. This has indicated that the website may need to include an administration control to manage passwords and perhaps incorporate the use of a security question and answer to create the feel of a real profile. This result may additionally be low due to the fact most of these users felt the need to compare the site with Facebook and Google+, with great detail in terms of account security. The result for functionality was additionally low at 1.72; the users were provided with a project brief to help create a picture of what the Online Scrapbook can do. However, due to unforeseen

circumstances, as detailed in the reflection, a lot of functionality had to be dropped thus causing such a misfortunate result.

Lastly, help and tutorial received a very positive mark of 1.33; happy. A lot of emphasis had been put into creating an easy to use, helpful tutorial. However, this result is mainly the cause of a lack of functionality, thus making the tutorial less detailed. It is far easier to explain simple functionality than to provide a lengthy tutorial on detailed functionality.

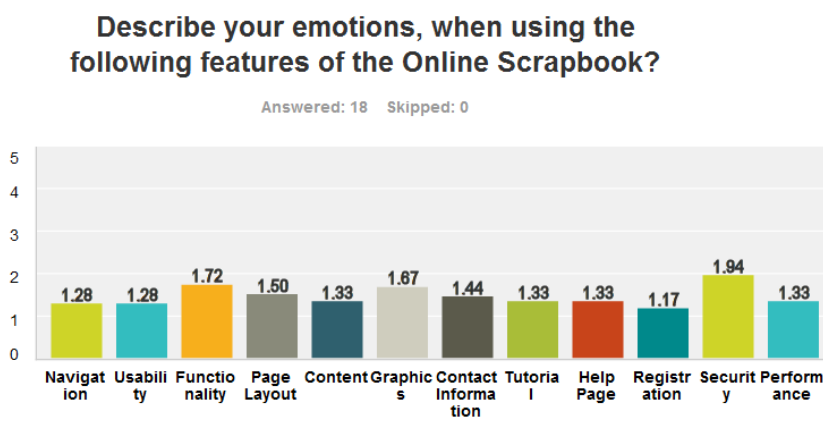
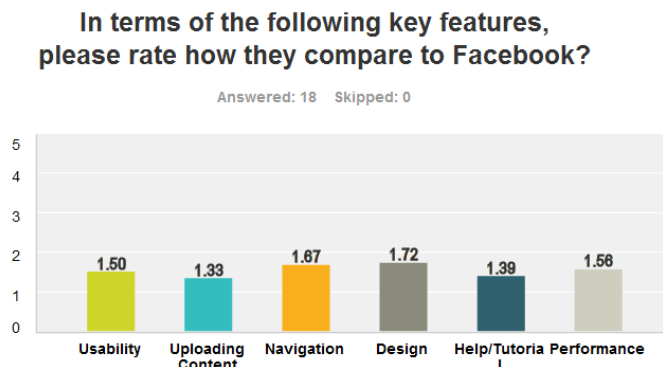


Figure 79 – Describe your emotions about the follow features?

Likewise, Facebook has been highlighted as a website with similar functionality and one that has been used to develop a solution to the problem. Positive results to take from this are the high rating in uploading content. This is core functionality of the online scrapbook and a rating of 1.33 suggested a large majority of users felt the Online Scrapbook was excellent in comparison to Facebook. Other important statistics to point out is the performance; a rating of 1.56 showed users felt the Online Scrapbook was borderline excellent and average in terms of its comparison to Facebook. Thus proving they felt the website could upload content quicker.



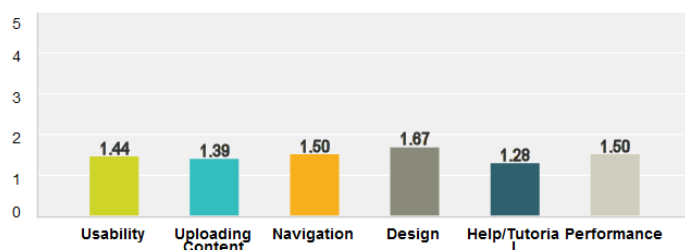
	Excellent	Average	Poor	Total	Average Rating
Usability	55.56% 10	38.89% 7	5.56% 1	18	1.50
Uploading Content	66.67% 12	33.33% 6	0% 0	18	1.33
Navigation	38.89% 7	55.56% 10	5.56% 1	18	1.67
Design	27.78% 5	72.22% 13	0% 0	18	1.72
Help/Tutorial	66.67% 12	27.78% 5	5.56% 1	18	1.39
Performance	44.44% 8	55.56% 10	0% 0	18	1.56

Figure 80 – Comparison to Facebook

This next comparison is with an online scrapbook site, SmileBox. Key parts to point out from these results are the usability and uploading content. A score of 1.44 and 1.39 showed the majority of participants felt the Online Scrapbook excelled in contrast to SmileBox; which is a hugely positive statistic as the Online Scrapbook is trying to replace websites like SmileBox by provided a faster service. One of the lowest statistics was the design at 1.67, this is due to the fact SmileBox has been developed by professionals and spent more time creating a fully functional website. The performance, due to this, was been greatly hindered hence the Online Scrapbook receiving another positive result.

**In terms of the following key features,
please rate how they compare to SmileBox?**

Answered: 18 Skipped: 0



	Excellent	Average	Poor	Total	Average Rating
Usability	61.11% 11	33.33% 6	5.56% 1	18	1.44
Uploading Content	61.11% 11	38.89% 7	0% 0	18	1.39
Navigation	50% 9	50% 9	0% 0	18	1.50
Design	33.33% 6	66.67% 12	0% 0	18	1.67
Help/Tutorial	72.22% 13	27.78% 5	0% 0	18	1.28
Performance	55.56% 10	38.89% 7	5.56% 1	18	1.50

Figure 81 – Comparison to SmileBox

The last question focuses on the overall reflection of the user's opinion. An extremely positive 78% showed users would most definitely recommend the Online Scrapbook to friends and family for further use; thus suggesting a positive overall experience and impression obtained.

How likely are you to recommend the Online Scrapbook to someone you know?

Answered: 18 Skipped: 0

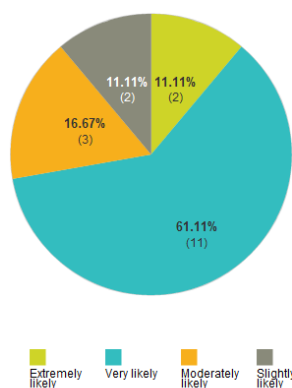


Figure 82 – How likely are you to recommend the Online Scrapbook?

Tag Clouds have been included in the usability evaluation to show the results that are not quantitative data. Tag Clouds are a stylish way of visually representing occurrences of words; the most popular topics are normally highlighted in a larger, bolder font. This allows individuals to easily see the most popular tags or words within a question; making it simpler to distinguish the responses covered in one quick look.

The screenshot below represents the tag cloud for the follow question:
Whilst using the Internet abroad, what sites are you most likely to visit?

Some examples were included to prompt the users but the results show most popular sites include Facebook, Google Maps, weather and emails. This is an important part of research as it allows us to further our understanding in terms of what sorts of applications users are using. For example; from these results, integration with Facebook is imperative to ensure users can use the Online Scrapbook whilst checking their Facebook accounts as well. An additional feature could include an integrated news feed, allowing two popular tasks to be completed at once. This provides a lot of potential opportunities with regards to future work.

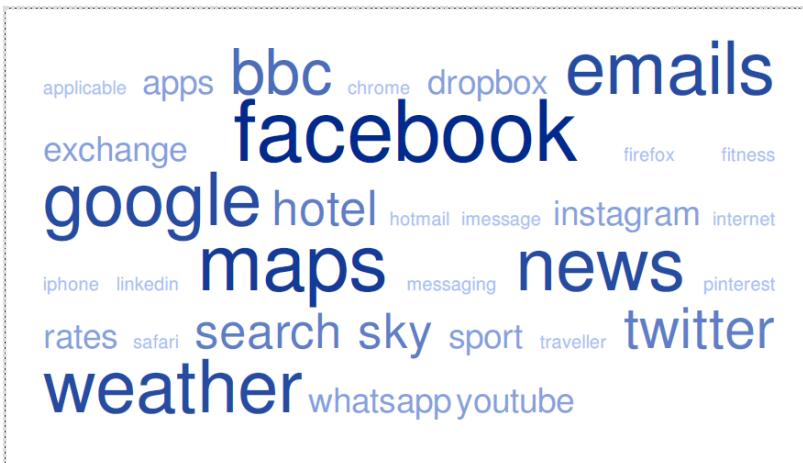


Figure 83 - Tag Cloud; Used apps whilst travelling

This is the next question presented to the users:
What improvements would you make to the design of the website?

The results show a clear indication of what to improve with regards to the design. Whilst looking through individual surveys, the most popular results include coloured buttons and the ability to personalise your background. These are two features which are very respectable in terms of creating a more individual scrapbook. However, throughout the design phase of the Online Scrapbook we found that coloured backgrounds often decrease reading ease, so personalised colours may be something to add to future work.

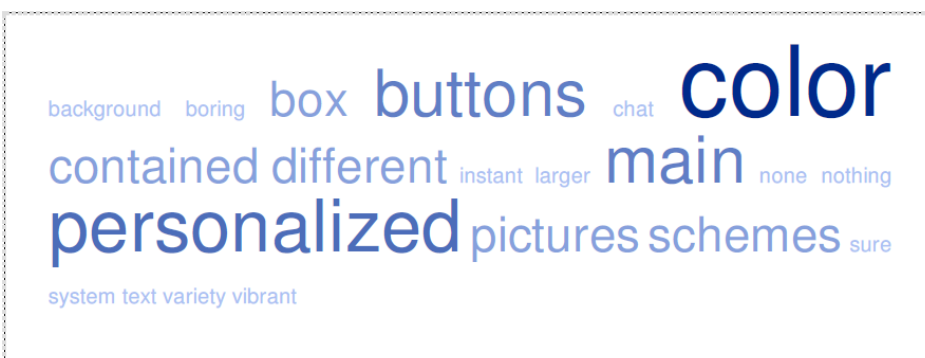


Figure 84 - Tag Cloud; design improvements

This was the last question asked during usability testing:
What else would you like to see included in the Online Scrapbook?

The question is to further confirmation with regards to future work. The main responses as identified by the largest text size are the use of filters for photos, message board and a friend's application. The only disadvantage to tag clouds is it breaks down sentences making it harder to identify what has been said. However, the majority of participants suggested a message board; when speaking to them individually about their feedback; they said the use of a forum or message board would be ideal to connect with friends, find out nice places to visit and to potentially arrange a meet up. The use of filters may be justified by the popular use of Instagram; applying such filters improves the quality of photos and creates a different impression.

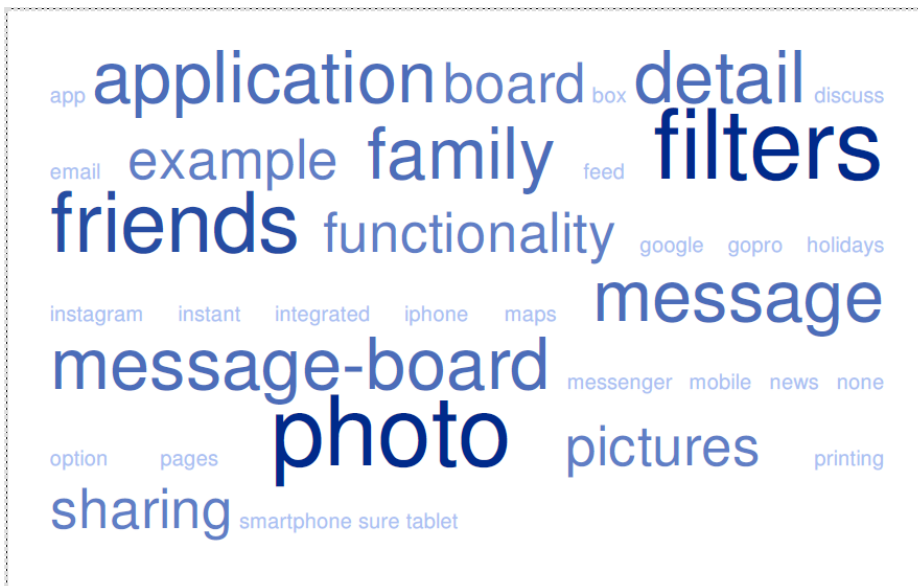


Figure 85 - Tag Cloud; possible new features

Other comments involved additionally functionality, example photos and a photo of the day feature. Popular camera maker GoPro includes a photo of the day and video of the day features for its users. The way in which photos are nominated is through its website but this can be adopted to perhaps include a like option, however this would mean that user's photos would become public.

7.0 Future Work

With every software application project, time constraints can play a massive part in determining the length of functionality. Below is a list of future work that would be undertaken and implemented if more time was provided. When suggesting these additional elements, a few things have been taken into account; firstly the time it would take to learn a new element or application to include in the website, and testing to ensure this new feature works correctly.

7.1 Scrapbook Page

This ideally represents and defines a scrapbook. Creating a scrapbook page will allow users to control their images, videos and diary notes, whilst creating an online book. A user would have the ability to recall past uploads and text to create the perfect diary of their time abroad, or travelling expeditions. This page would work by providing users with a few tools to create their scrapbook; such as text boxes, stickers, frames for images, background colour, and other formatting tools similar to this. Also, a user can switch between different pages using a forward and back arrow system. This page could not be completed during the project phase as this was quite an optimistic idea and is something that I may look to implement after university.

An idea of what this page may look like can be shown in the image below. The page combines a mixture of pictures, videos, calendar, text and maps. The page could be previewed for playback, shared to social media and deleted if this is incorrect or outdated.

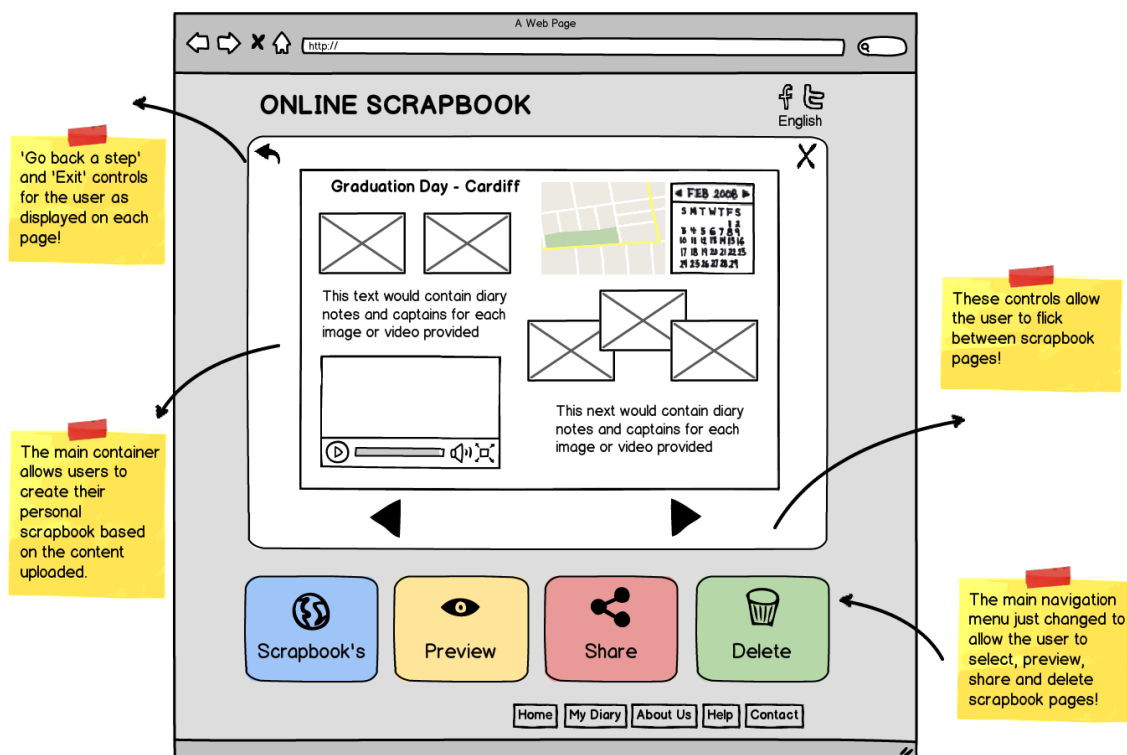


Figure 86 - Scrapbook Page

7.2 Login with Social Networking

Another feature that could not be implemented is the ability to login with Facebook credentials. The login would use personnel's Facebook login details to access the website. This would be useful as it would avoid including a 'forgotten password' function, as this would be conducted through Facebook itself.

This was attempted during the implementation phase following the steps provided by the Facebook API page. There were snippets of page provided that had to be included and implemented correctly; the languages used included HTML, PHP and JavaScript. However, when implemented, it created numerous errors to the current working website. Therefore a decision was made to remove the login as the time it was undertaking to potentially fix the error was time that could not afford to be wasted.

7.3 Google Maps API

Integration with Google Maps API was part of functionality to be included at the start of this project. However, I found throughout the implementation phase that this was an optimistic feature to include. The way in which this would operate is allowing users to search for a location in the map, for example; Switzerland, then saving this location, or placing a pin. This drew many errors when added to the website; firstly, users could not save their locations once found on the map. A severe amount of time was spent trying to think of possible solutions; incorporating pictures of the countries rather than a Google Maps image, having a Google Maps API just for exploring reasons, and finally using a combo box of countries to select from. In order to ensure this was a feature that users that use, we decided to include a combo box containing a list of potential countries to visit. Although this takes a huge segment of functionality out of the Online Scrapbook; it is far better to have a working system with simple functionality, than a complicated system without working functionality. This is why this feature has been included in the future work section of the report; as the time it would have taken to correctly implement Google Maps API would have set the project back quite significantly.

7.4 Smartphone Application

Due to the increasing use of smart phones over laptops or desktop computers, as seen in personal research; an Online Scrapbook app would be a useful feature to include. This applicable would have the capabilities of using the phones integrated camera to take photos or videos, whilst uploading the rest of the particulars at a later date. Further, this scope could be increased by including a desktop application which the smartphone app can sync too once connected to Wi-Fi and the additional use of sharing to other applications such as Instagram, Pinterest or Facebook. This would greatly speed up the process of documenting travels on the go, rather than having to locate an internet hotspot.

7.5 Printer Friendly Option

This last future additional feature includes the implementation of a printing facility. We are not fully sure as to how this system would be implemented but provides great benefits for the user. The process as to which this would work is by printing the scrapbook pages created. This would only operate for photo only scrapbook pages. But will be of an advantage to the user to keep a physical copy of their travelling experiences. Obviously this feature is far too optimistic but has been included to show a variety of scope in terms of which direction the Online Scrapbook can progress in.

7.6 Message Board and Filters

A message board would allow users to participant on multiple discussions with regards to places to visit, what country are they present, etc. This is a feature suggested by the focus group undertaken during usability testing. We found from the results that there was a strong correlation between including a message board and communicating with friends. An additional feature that was most popular as represented in the tag cloud is filters; popular photo editing site Instagram has attracted a huge user base by offering 16 different, easy to apply filters. Allowing this customisation would bring an increased feel of customisation and bringing photos to life.

8.0 Conclusion

This task involved developing a website application that allows users to upload content such as photos, videos and diary notes whilst travelling. A lot has been achieved throughout this process and will be discussed in further detail below.

The main aims of this project is to allow users to create and store memories within a scrapbook of their time abroad and creating a website that is quick, easy to use and functional. From the usability evaluation, we have seen that a high majority of users felt the site was easy to navigate, extremely usable, and were very happy with the ability to upload a photo. We have achieved a functional website that allows users to create an account and login with that account, watch tutorial videos, received help on frequently asked questions, upload content to the database with a variety of fields and logout.

This was done through popular web design languages HTML, CSS and PHP. The core functionality of the site involves a user login, uploading content and the ability to share this content. The Online Scrapbook currently allows a user to login and upload content, but could not create a functional sharing option. I found that at the start of the project the learning curve was hugely underestimated. However, this can only be seen as a positive as my web development skills have vastly improved, therefore being the biggest achievement throughout the entire project phase.

The reason I chose this project is because it is something, through personal experience, that would have been of extreme use. Travelling is a huge passion of mine and to develop a website with the possibly of this being used as a documenting tool was greatly satisfying. Additionally, this is something I will look to continue outside my degree. The whole purpose of the project is to challenge us, develop our skills and create a purposeful application; I felt that this has been remarkably achieved.

9.0 Reflection

The Individual project is based around the concept of “lifelong learning”. Throughout the whole phase a lot of new skills have been acquired and lessons learnt. In order to affectively reflect on these, we will start from the beginning as shown below.

9.1 Project Challenges

Throughout the implementation phase there were several difficulties and problems that constrained time and help back the project plan. These problems are a mixture of coding, design, resources available and time management.

9.1.1 Implementing the Design

The design of the site has been included in the implementation. Due to the fact that there was insufficient experience in terms of formatting websites and styling with CSS, replicating the design was a difficult task. I found it very problematic to create the four active buttons as shown below; each time a container was created, the layout would change and cause other elements of the site to move to unwanted locations. We had tried locating tutorials from W3 schools but the time it was taking to correct these problems was not worth leaving this out. Hopefully this design feature is something that can be implemented at the end of the project but at the present moment and during testing, this is not operational

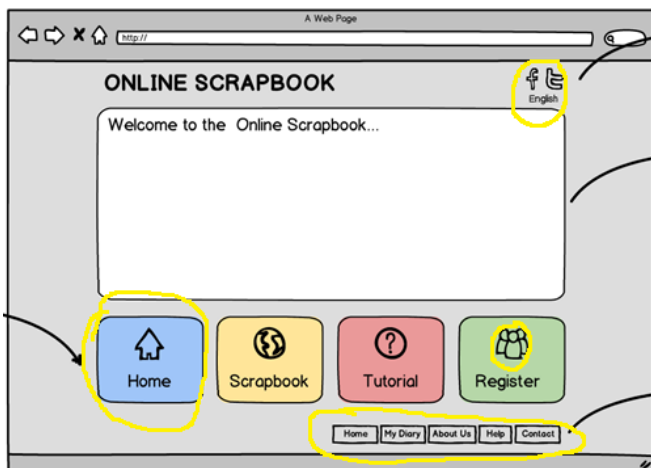


Figure 87 - Design with highlighted difficulties

9.1.2 Functionality; Uploading Photo and Video

The original propose was to allow the uploading of photo and video content to the website. However, this is a little more complex than anticipated in terms of saving a photo to the database. My original PHP code takes input from a form and uploads this to the applicable database table. We encountered great difficulties as several tutorials online and content gained from books did not create a solution. However, I managed to upload a photo to the database by saving it to a temporary folder before saving as a BLOB in the database table. We were unable to upload a video at first due to difficulties breaking it down. There were several errors due to a large file size. However, this was somewhat resolved through a database format called ‘LARGE BLOB’; more details about this have been shown in the Implementation section. This task could be something to look at and properly analyse, with the hope of creating a more efficient saving system. But due to time constraints, I could not improve this as we just had to settle for working functionality. Spending too much time on a feature that may not even improve the current way of doing things, was not a risk we were prepared to take.

9.1.3 Functionality; Facebook Login

The subsequent difficulty was incorporating Facebook Login. Before implementing this it was highlighted to me by my supervisor that this feature would be highly beneficial and would avoid having to create a forgotten password function. Facebook offers three different API's including client-side, server-side and native device. We decided to follow the client-side steps as shown in the screenshot below. The complete coding was accomplished but several errors occurred. In addition, before incorporating this into the Online Scrapbook, the login was made on an individual website to ensure we can create a working function.

The screenshot shows the Facebook Developers interface. On the left is a sidebar with navigation links: 'Login with Javascript SDK' (selected), 'General', 'Client-side', 'Server-side', and 'Other platforms'. The main content area is titled 'Step 1. Create a Facebook App'. It contains a 'Create New App' form with fields for 'App Name' (My New Javascript SDK App), 'App Namespace' (mynewsapp), and 'Web Hosting' (unchecked). Below the form is a 'Continue' button. Below the form, it says 'Once you've created the app, note the app ID shown at the top of the dashboard page.' Below that is a section titled 'Apps > My New Javascript SDK App > Basic' showing the app's details: 'App ID: 13922569466609' and 'App Secret: a64b2070e40e5bf8958a70d6db4655d4 (reset)'. Below this, it says 'Alternately, you can use the ID of an existing app.' Below that is 'Step 2. Add the Javascript SDK' with instructions to insert a code snippet after the opening <body> tag in HTML. The code snippet is: <div id="fb-root"></div><script> // Additional JS functions here </script>

Figure 88 - Facebook Login

Once we had finished the login in a separate HTML website, this would be incorporated into the Online Scrapbook. Firstly, displaying the Facebook login button on the login screen would not work correctly; I could not find the appropriate code that would help solve this. The last error is correctly linking back to Facebook to authenticate a user's login account. After numerous emails to Facebook, I did not receive a reply and thus had to remove this functionality from the website.

9.1.4 Embedding Pinterest 'Pin It' Button

Pinterest is a social media tool for collecting and organising things of interest, such as photos. Incorporating a 'pin it' button allows the user to pin a photo to their account for friends and followers to see. There is additionally an option to recruit followers and embed a user's profile. However, as soon as this script was included in the website, the button did not display. The screenshot below shows the options for embedding a variety of widgets along with the corresponding code. Due to the fact personal knowledge of JavaScript was transparent, this feature was not implemented. However, the Online Scrapbook has incorporated the use of a tweet and Facebook share option.

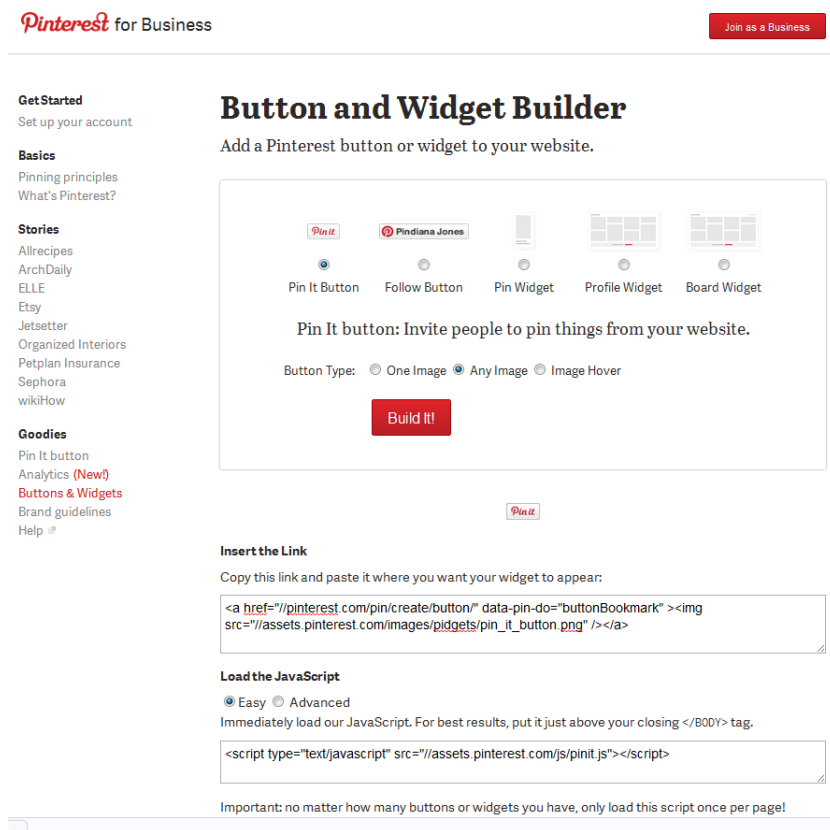


Figure 89 - Pinterest Widget Builder

9.1.5 Ambitious Project Aims

The last difficulty is the over ambitious and optimistic project aims. At the beginning of the project, in terms of the overall plan, we were very well on course to completing a full functional system. However, over the course of the year a lot of unfortunate extenuating circumstances had cropped up which caused the removal of certain functions in order to finish the website. For example; I did not realise how much other coursework was required to be completed during the course of this semester. Another factor was the height of the learning curve; studying HTML, CSS and PHP through w3schools took time, as practise makes perfect. Additionally, several trips home had to be made which meant progress on the site could not continue.

However, with every problem there has already been a suitable work along. The reflection gives more details on how most of these problems were overcome. The main point to highlight is the fact that with less functionality on the site, this provided advantageous for users due to the fact the simplistic levels are a lot higher. Users can spend more time focused on actually uploaded photos, rather than wasting time linking scrolling through news feed, or trying to find a perfect map to go with the photo.

9.2 What has been learnt

Communication was required with the supervisor and moderator to ensure they are regularly updated on my progress. One of the primary methods used was Google Drive; this was an extremely useful tool as it ensured my supervisor and I could add comments to my project work. I would then receive a notification of this and make suitable adjustments. Additionally, a Facebook group was created by my supervisor to arrange group meetings and for any queries; the group had a links page to helpful links; these provide some of the most helpful links including a tag cloud website and information on creating design mock-

ups. I personally felt my communication levels were good but if I was to make an improvement it would be to perhaps arrange a meeting with my moderator before the report was due for submission.

Time Management is another important factor with regards to project work. Being able to affectively assign enough time to complete the initial plan, interim report and final report before the deadline was pivotal to the success of this task. I used an iPhone application to control milestones such as finish implementation, create login file, create database table, etc. This was very useful as smaller, more achievable milestones made me feel better about the work I was doing and made managing unforeseen problems stress-free. Overall, I felt my time management was above average; if I was to repeat this task I would look to optimise the Easter period more; but could not have done so due to personal issues.

Programming Languages were essential in terms of Implementation. As mentioned throughout the report, previous experience with these languages was minimal. However, I have learnt a lot in terms of web development, improving my knowledge especially in HTML. Through a series of tutorials provided by w3schools, I was able to learn various elements to HTML, looking to implement new acquired knowledge. For example; I learn how to create a website using HTML, containing div elements and using scripting language CSS for formatting. Moreover, PHP was fundamental in terms of communicating with the database and this language's learning process has provided me with skills to use in a potential career in the future.

The uses of API's, **Application Programming Interface** were implemented towards the end of the project phases; this included social media sites Twitter, Facebook and Pinterest. I have learnt how to embed these into a website and the advantages of incorporating these. Each API offers different functionality, thus catering for all potential user's needs; the ability of being able to share a status, follow an account or tweet about something is a useful feature to have. The widgets provide users a choice, so they can remain using the Online Scrapbook whilst interacting.

Research has been used throughout the report phase. I have found several articles and online sources providing with knowledge and help in terms of implementation and report writing. My use of research has not been as detailed as it could have due to the fact I struggle to find suitable articles and knowing how to use them properly is a difficulty. However, my project is a mixture between an IS and CS project, therefore not depending on research. I felt the research performed on existing websites were highly detailed and enabled me to help create an efficient solution.

Finally, **Decision Making**, throughout the course of the project there were several key decisions that had to be made throughout. Firstly, with regards to implementation, we had to create a work around due to the fact Google Maps API, Facebook and Instagram sharing did not work correctly. I treated every negative as a positive by implying this lack of functionality as a form of making the website simpler for uses. This decision to remove the functionality was correct due to the fact the extra time saved was used to improve login security and the final report.

Likewise, the selection of programming languages, as shown in the implementation phase, was another important decision. I created a table to demonstrate the features of each and help improve selection. However, due to the fact the website required a lot of control and freedom, the decision to hand code this was made. Overall I felt this decision was a positive, correct one as I have come away from the project knowing I have developed a new skill set, website development. The satisfaction of completing a certain feature after multiple errors is worth far more than developing a site using a variety of templates.

In addition to this, the last important decision made was with regards to decision. The decision of a website is imperative to its success and its ability to encourage the user to continue using the system. Usability testing with over three quarters of participants was more than likely to continue in exploring the Online Scrapbook. The design included a simple grey background with clear controls. I decided to not include colour due to the fact it could distract users from the core functionality, and I found through personal experience, reading text off a grey background is far easier than off blue or red. Overall I thought my decision making was within the best interest of the project aims and to ensure the website could remain on course to be completed on time. There is however, one decision that I would like to change; this being not creating over ambitious project aims. I felt at the start of the project, in order to keep the difficulty high I had set out aims that potentially were not achievable. If I down scaled the project aim and then looked to include extra functionality once the site was completely, this would play out more beneficially for me.

9.2 Things that went well

There were many things that I can be proud of after completing this project phase. Firstly, the ability to actually study and create a website has been most fulfilling and my biggest achievement. The learning curve in order to progress and actually implement a system was large but achievable; this is due to the number of resources available. Furthermore, I felt my time management and communication were a positive aspect as I planned and allocated more time for difficult tasks; additionally I began work on this project straight after the Interim report. Although an extension was provided for this report due to unforeseen circumstances, the project would have been finished on time and to the best possible standard without this occurrence.

Overall, I have thoroughly enjoyed this experience of implementing a project and documenting a final report. Due to the fact the project is of interest, this encouraged me to continue work and always try to improve the current system. I was my own client so this kept me constantly questioning my actions to ensure the requirements of the system were adhered to. I additionally enjoyed learning new skills and the independence required. There was some guidance provided by the supervisor and moderator but due to the fact this was my own project, a lot of decisions and ideas were created by me.

The negative side to this experience was the length of time it has taken; due to the module equating to 40 credits, approximately 380 hours had to be spent on this entire project. There were several difficulties that cropped up which evidently halted and changed the implementation phase. But the decisions made were key and I believe to be the correct ones to ensure the primary aims of the system can be met. On top of everything, integration with other coursework provided frustrating at times as my project work could not continue due to earlier deadlines, I would personally prefer this project to be solely undertaken in the second semester to ensure full commitment.

The significance of what has been learnt will provide me with great skills for the future. A possible job interest is within web development or consultancy. Creating requirements and implementing a website were two key tasks involved in this project. However, it is to my understanding that the current level of skill will need to be vastly improved nonetheless this has been a great, advantageous starting point for the future. In summary, the Online Scrapbook meets its aims of being a useable, functional site for travellers and has been proven throughout testing that this is a respectable website.

10.0 Glossary

A

Acceptance Criteria – Specified indicators or measures employed in assessing the ability of a component, structure, or system to perform its intended function.

Algorithm – A step by step procedure designed to perform an operation, and which will lead to the required result if followed correctly. Algorithms have a definite beginning and a definite end, and a finite number of steps.

B

Backbone – A high-speed line or series of connections that forms a major pathway within a network.

Bandwidth – The rate at which electronic signals can travel through a medium, such as a wire, channel or cable. Bandwidth may also be described as the width of the 'pipe' through which data travels. Technically speaking, it means the difference between two frequencies.

Black Box Testing – This is also known as functional testing; Black box testing is a software testing technique whereby internal working of the item being tested is not known by the tester. The tester does not examine the programming code; but only knows the inputs and what the expected outcomes should be.

Blog – This is short for web-log; a web-based journal.

Browser – special software designed to read web pages. Often referred to as a web browser, popular browsers include Internet Explorer, Mozilla Firefox, Opera, Google Chrome and Safari.

C

Client – A piece of software designed to contact and obtains data from a web server. An email client or browser client are two examples.

Code – Term used to describe computer-ready data. Code is written computer instructions.

Component Testing – This involves the testing of individual components of a system.

Cross-Platform – The ability of a programming language that enables programmers to develop software for several competing platforms by writing a program only once. This includes operating systems and various browser types.

CSS - Cascading Style Sheets. A standard for formatting the appearance of webpages, etc. In relation to 'Web Standards' and 'Semantics', it is used to separate 'meaning' from 'presentation'. Used alongside HTML, XML, XHTML, etc.

D

Database – A collection of information organized in such a way that a computer program can quickly select desired pieces of data. You can think of a database as an electronic filing system.

Desktop - a PC designed to be set up in a permanent location because its components are too large for easy transportation.

DRM– Digital Rights Management; class of access control techniques that are used by with the intent to limit the use of digital content and devices after sale.

E

Encrypt - To obscure the meaning of a message to make it unreadable.

F

Facebook – This is a type social networking service. This allows users to create a personal profile, add other users as friends, and exchange messages, including automatic notifications when events occur.

Firewall - Hardware and software systems designed to create a security barrier between networks. These can be configured to allow decisions to be made on what can and cannot be accessed. Used to detect and block illegal access attempts.

Flat-site Architecture – The architecture of a website is how a user or search engine can navigate through that website. Flat-site architecture involves a maximum of 1-2 click levels of depth.

FTP (File Transfer Protocol) – a protocol used for file transfer from computer to computer across the Web.

G

Google Maps API – This is a technology which allows a developer to incorporate the use of Google Maps within their system. API stands for application programming interface.

H

HTML (Hypertext Mark-up Language) – a standardized hypertext language used to create World Wide Web pages and other hypertext documents.

HTTPS (Hypertext Transfer Protocol Secure) – a set of rules for fast retrieval and transmission of electronic documents written in HTML over a secure connection. This is different from HTML because they encrypt and decrypt user pages to prevent unauthorized access to sensitive data.

I

Instagram – Is a social network and photo-sharing application that allows users to upload photos, and edit these photos through filters. Instagram allows users to follow other users and like photos.

Integration Testing- Is the phase in software testing in which individual software modules are combined and tested as a group.

IOS – The mobile operating system owned and created by Apple.

ISP - Internet Service Provider. Companies that provide a means for their users to access the Internet.

M

Mock-Ups - Model or replica of a system built full-size or to scale for testing, demonstration, design evaluation or training purposes.

MySQL – Is an open source relational database management system and most commonly used for web applications. MySQL relies on SQL for processing the data in the database.

O

Online Scrapbook – The website to be created allowing users to upload content such as photos, videos and diary notes to a personal online journal.

OS (Operating System) – acts as a director and interpreter between the user and all the software and hardware on the computer.

P

Password - a string of characters that security systems use to authenticate, or verify, a user's identity. The security system will compare the password inputted to the password stored for the user account. Most operating systems store passwords when users create login accounts.

PHP (Hypertext Pre-processor) – a widely used open source general-purpose scripting language that is especially suited for web developed and can be embedded into HTML.

Prototyping – is a method of testing ideas and concepts for new products and services. A prototype is a small scale mock-up of a product, or a test run of a service, created to explore its viability and usability as part of the development process.

R

Requirements – Can be functional and non-functional; a requirement is some quality or performance demanded of a service to test it meets the user's needs.

S

Search Engine - A web based database used to find websites. Work on the basis of a websites relevance to a search phrase.

Site Map – Is an overview of the pages within a website. Site maps of smaller sites may include every page of the website, while site maps of larger sites often only include pages for major categories and subcategories of the website.

Social Network – Is the process of grouping individuals into specific groups. Social networking is possible in person, but is most popular online using sites such as Facebook, Twitter and LinkedIn. Social Networking sites function like an online community for internet users.

System Testing – is the process of performing a variety of tests on a system to explore functionality or to identify problems. System testing is mostly required before and after a system is put in place.

T

TCP (Transmission Control Protocol) – one of the main protocols in TCP/IP network; this enables two hosts to establish a connection and exchange streams of data. TCP guarantees delivery of data and also the order in which the packets were sent.

Twitter – Is an online social networking service and micro blogging service that enables its users to send and read text-based messages of up to 1540 characters, known as tweets. Twitter is one of the first online social networking sites to incorporate tagging; the process of allowing users to group posts together by topic or type.

Two-Dimensional Space – 2D space refers to the flat surface region of a drawing/painting upon which someone creates the artwork. 2D space is measured in two dimensions; width and height.

U

UML– stands for Unified Modelling Language; it is the general-purpose language in the field of object-oriented software engineering. It includes a set of graphic notion techniques such as Class Diagram and Use Case Diagram, to crease visual models of object-oriented software.

Unit Testing – It is a testing method which verifies a ‘unit’, or the smallest piece of an application which is able to be tested.

Usability – “The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use. Usability refers to methods for improving ease-of-use during the design process.” ((ISO), 1947)

Usability Testing – Is a method by which users of a product are asked to perform certain tasks in an effort to measure the products ease-of-use, task time, and then user’s perception of the experience.

Use Case Diagram – Is a graphical representation of a user’s interaction with the system. A sue case diagram can portray the different types of users of a system and the various ways that they interact with the system.

User Satisfaction – Is the attitude of a user to the computer system he/she employees in the context of the work environment or application.

V

Validation – “Are we building the right product?”

Validation and Acceptance Testing – A more formal method of testing conducted to determine whether a system satisfies its acceptance criteria and thus whether the customer should accept the system.

W

W3C – Is a website validator that helps check the validity of web documents.

Web Browser – is a client to a web server that allows the user to read HTML documents on the World Wide Web.

Web page- a document, typically written in HTML, which is almost always accessible via HTTP, a protocol that transfers information from the Web server to display in the user's Web browser.

Web Server- a computer that is only used to display websites and webpages.

Website - a collection of Web pages, images, videos or other digital assets that is hosted on one or several Web server(s), usually accessible via the Internet, cell phone or a LAN.

Wireframe – This is a visual guide that represents the framework of a website. These are created by website designers for the purpose of arranging elements to best accomplish a particular purpose.

World Wide Web (www) - An international protocol (http) used as a common means to communicate via the Internet.

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