

# Coursework Report

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## 1 Introduction

The objective of this assignment was to use our now consolidated knowledge of the Python Flask micro-framework along with our relatively new knowledge of server side web development to design, evaluate and implement a web application, with the topic to be chosen by ourselves.

Similar to the previous coursework we were given examples of what this application could encompass. Immediately the idea of a blog/social platform reached out to me. Using social media on a regular basis I thought this would be the most suitable option. After this was decided it was then onto what the blog would be based on, after being given the chance to teach Database Systems in China to a group of university students for 3 weeks, I thought it would be a great opportunity to display all the pictures I captured and share the experiences I had.

The blog platform gives a user the opportunity to view the posts before they create an account or login, however if they wish to create a post of their own or view another users profile they will be redirected to the login page. This feature was added to allow users to view the site before giving credentials and to decide if this is something they would be interested in reading or even talking about. By also choosing this topic, I was able to avoid any copyright infringements as all pictures were taken by myself and would require no referencing.

Once the site is searched they will be presented with the main page of the site, this can be found in Figure 1 below. Due to the main pages scrolling ability, not all of it has been captured in the below 2 screen shots. From the main page the user is presented with the option to login or sign up, if they do not already have an account. As stated above the user is also able to click or scroll down and view the intro to the page and the other content on main page.



**Figure 1: Home**

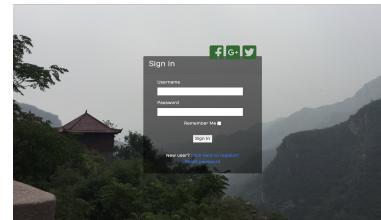
Hey welcome to this blog! In May I was lucky enough to have been given the opportunity to teach Database Systems at a University in Zhangjiajie, China. Whilst there I managed to snap a few pictures which I thought I would share. All pictures are from my own trip, strictly no google images were used in the making of this site! Feel free to look around or post some of your experiences also!

### Heritage Sites.



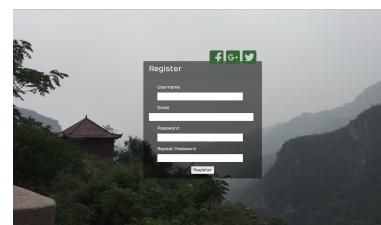
**Figure 1.2: Home 2**

If the user decides they want to login to their account they will click the 'Sign in' button and be directed to the login form, this can be seen in Figure 2 below. Once logged in the user will be able to view certain pages that a non registered user wouldn't, these include creating a post of their own, looking up certain users accounts, follow/unfollow users, edit their own account and view other users on the sites posts in the activity feed where all posts are displayed, this is similar to an Instagram explore page.



**Figure 2: login**

If it is a users first visit to the site and they would like to create an account and get started, they would simply click the 'Sign Up' button towards the top left of the page. After this is clicked they will be directed to the register form, Figure 3, the information required from a user to create an account is simple, just a username, email and password, they are required to enter a password twice to avoid discrepancies or inconsistencies. Once this is completed, they will be redirected to the login page where they will enter these details and get started.



**Figure 3: Register**

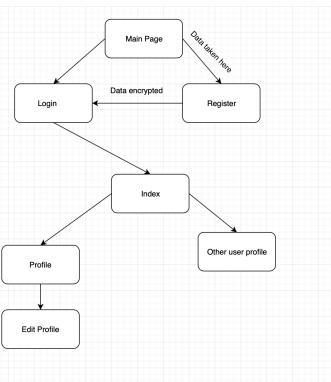
## 2 Design

Within the Python Flask micro-framework they are so many additional libraries that can be used to build amazing web applications. With this resource at my disposal, I created a virtual environment within my folder in the server and began to install the things that would be required to produce the above web application. A full list of these libraries can be found in the appendix section of this report.

By allowing the user to have their own profile, by registering and logging in it was clear that properly hashing sensitive data would be a priority. When a user signs up all that they are asked for is a username, email and password anymore information would be unnecessary and irrelevant to the site that has been created.

The site is structured in a way that the hierarchy URL structure is not difficult to guess, if a user wanted to login for example it would be <https://set09103.napier.ac.uk:9158/login> with '/' being the root and main page of the site. However once logged in the user is redirected to the 'index' page, Figure 4, where features such as profile and the ability to add posts and are now visible.

The full URL hierarchy can be found below, Figure 5, if a user attempts to reach a site that is not there they will be presented with a customer error page.

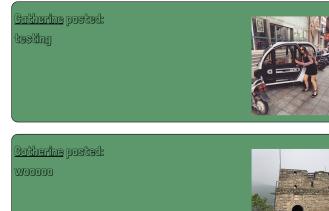


**Figure 5: Hierarchy**

If the user wishes to add a post, the below Figure depicts how this would be done. Amongst adding a post the user is able to see all previous posts by either themselves or other users, each post is displayed within a green container box, this clearly illustrate what a post is and what isn't.

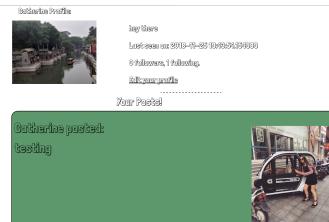


**Figure 6: Make a Post**



**Figure 7: Posts**

On a users profile page, Figure 8, they are able to view their own posts and if they require, they can also edit their profile.



**Figure 8: Profile**

## 3 Enhancements

Although the work created allows the user to interact reasonably well, there are many aspects that could be enhanced or added to provide the user with an all round more enjoyable experience.

The ability for a user to add or remove a profile picture of their choice would be a good addition to the site, currently it is a default image that is used in each profile, with every user having the same one. Looking at my own social media accounts, I feel by having your own picture it adds a sense of personalisation to both the user and the site, and by being able to change it allows all users to stay up to date with one another.

When a user creates a post they must fill out 2 fields, the body and an image upload. If this site was to be developed further additional form fields would be added to separate the information and clearly indicate, where the picture was taken, when it was and a star/rating service. This kind of design is used in other sites such as trip advisor which is what the site could be developed into with these enhancements.

Despite most of the site being aesthetically pleasing, there are definite enhancements that would be made to each page should the site be developed further. After previously stating about the profile picture aspect, the profile page is one that would need to be given a revamp of CSS and HTML. Whilst serving its purpose for the current site if any of the above enhancements were to be implemented it would drastically need to change as it isn't feasible for any more information to be added to it.

Finally, giving the user the ability to like or comment on a post is one of the key attributes this web application is missing. By allowing a user to contribute to another user's posts it changes the site from a blog platform to a social media page.

## 4 Critical Evaluation

From an outsiders perspective the above web application fits the brief to an above average standard.

In keeping with the brief, all additional Python Flask libraries that were used have been listed in the appendices section of this report as well as a justification as to why each one was needed to make the site.

Aspects of this platform that work well is its ability for the user to add posts with pictures and the clear viewing style of a users individual posts or other posts from users in the activity feed.

The aesthetic aspect of this site also add an edge, with the use of a sketch style font and a mainly picture based home page and post style, it allows the user not to get bored as easily as there are no long text areas where they would be inclined to read to understand what is happening.

Overall, there isn't a certain area that is 'poor' maybe just lacking a bit of attention. As stated above due to time constraints the edit profile section of a user's profile page is very basic and not in theme to the rest of the site but this is an area that without a doubt would be updated.

However, as stated in the previous section they are enhancements that could be added to the web application, as this is only the first development cycle it would difficult not to find areas that need improvement but as a starting basis this site encompasses most features used in modern blog platforms today.

## 5 Personal Evaluation

Due to this being my first server-side development project I feel I have performed to a reasonable standard, during the development of this site I encountered a lot of stumbling blocks. These include the introduction of sqlite databases, something before this module I had never used never mind heard off. After using a few online tutorials, referenced below, I was able to visualize and plan out how the site would work for each user, after this I started to figure how it manage multiple users and posts, and subsequently display these on the site in the place I wanted.

After undertaking web technologies in 2nd year, this had given me a pretty decent background in HTML and CSS which was required this coursework. Although some pages, such as login and registration required bootstrap, the rest was entirely written and designed by myself, as well as all the pictures displayed.

I have gained a great deal of knowledge into how everyday applications such as twitter once started out, before this coursework or module in general I was clueless as to how modern day sites operate. After being able to build one of my own, it has definitely made me more ambitious to add to it and consider a possible career path in this field. Although struggling slightly on the imaginative side, it has allowed me to gain real life skills as well as computing ones.

## References

### Inspiration for the overall look of the site:

<https://www.theadventurists.com/home/>

<https://www.theguardian.com/technology/2008/mar/09/blogs/www.wanderlust.co.uk/content/the-top-travel-blogs-you-must-read/>

https:

### Online tutorials used to aid the implementation of the site:

<https://courses.miguelgrinberg.com>

<https://www.youtube.com/watch?v=CxCK1DkikgA>

<https://www.youtube.com/watch?v=zRwy8gtgJ1A>

<https://www.youtube.com/watch?v=XHGpCYmPvI>

### External stylesheets used:

<https://fonts.googleapis.com/css?family=Londrina>

https:

<https://www.w3schools.com/w3css/4/w3.css>

https:

<https://bootsnipp.com/tags/login>