

# Coursework Report

Catherine McNamara  
40280565@live.napier.ac.uk  
Edinburgh Napier University - Web Technologies SET008101

## 1 Introduction

The purpose of this assignment was to produce a fully functional blog platform which is to be comprised of server and client elements. The client element provides a user interface that allows the user to add a post of their own to the site. The server element of the site is comprised of Node.JS, to execute the JavaScript on the server-side, MongoDB, to act as the blog's database and Mongoose, acting as the middle man connecting the platform to the database. The content of the blog was optional so i opted to make it feature my dog with the title "TAILS OF A PUG". The initial aim was for users to be able to subscribe to the blog and have the option of adding a post of their own to the news feed and have the newest post display at the top. The current pages available on the platform at the moment are:

1. HomePage
2. Feed
3. Add Post
4. Login

All background reading, external CSS style sheets or copyrighted materials that aided me in completing this assignment have been referenced in the last page of this report.

## 2 Software Design

The assignment proposal had a clear outline of what we would be expected and needed to give the blog platform a desirable user experience. To produce the client interface a mixture of HTML, CSS and JavaScript would be essential and for the server, Node.js. To gain a better understanding on how the platform should look and function, various current blog sites were explored [2]. Following that, designs for my own site began to take place, below are the sketches of the original layout ideas before implementation.

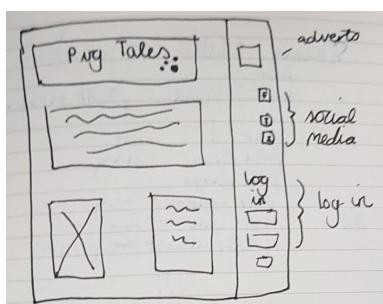


Figure 1: Blog HomePage

The header of the site would feature a background image along with the title. The blog itself would be split into 2 columns, left and right, the left would hold the written content of the site ie the posts and intro, whilst the right would have links to social media and give the user the ability to register an account where they can log-in and add a post. Below the header there would be an area of text introducing users into the site and informing them of what to expect from it, with the addition of a few pictures of my dog underneath.

Continuing on from the homepage, there also need to be a page where all posts would be displayed, a feed if you will, so the user is able to see the most up to date content in one page.

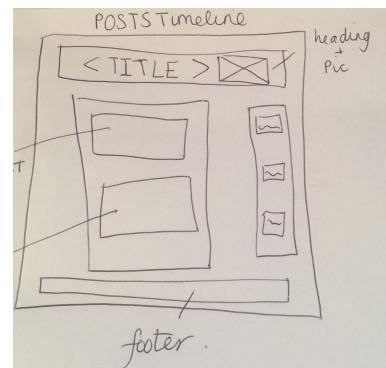
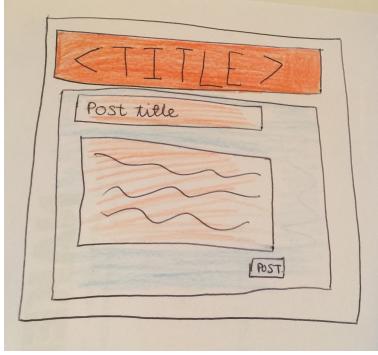


Figure 2: Feed page

From the above picture, you will be able to see both the header and right column remain on the page, this is to provide consistency for the user and also if they want to view posts before they register they have that ability as the register area remains in the same region throughout. Generally, for each post there will be a set box, a title for the post and the content of the post, it will also display the time and date it has been posted to provide a more accurate experience for the user, this will be done by displaying the details of the user's session.

After the feed is displayed, the user is able to navigate to a page where they have the option of creating and adding their own post to the site. The aim is to also give the user the option to remove and update their own post if they so desire, however as previously stated in the introduction creating blog platforms with a client and server element is new to me so most of the time spent on this assignment will be understanding the background elements to this site and then introducing multiple options to a post for a user if there is still time in the assignment remaining.



**Figure 3: Add Post page**

Each post must be given a title or short description so it is easily recognized by the user and the database, MongoDB, this is an input text area as is the post content.

After a clearer picture of what the platform would look like was laid out, consideration on how the server would work was next. Knowing it had to be implemented using Node.Js gave a starting point on where to research.

### 3 Implementation

Fast forward to the current layout of the site and it is clear to see there are some key differences in the design. For example, a navigation bar was never taken into account in the preliminary stages of the design, so a user would have been unable to navigate from page to page, this was quickly introduced and rectified.

Due to the fact Node.js is being used to run the JavaScript server side, this meant that the default design files are .Jade rather than HTML, the syntax between the two differs slightly. Node.Js also makes use of blocks that essentially run like methods, they contain code and when called upon in the main page of the blog are able to run.

Implementation wise, CSS was heavily used in the presentation side of things, I made use of lots of many div's, primarily to allow my website to be able to function as two separate columns.

Coinciding with my last coursework, before actually generating the text content, I needed to ensure everything was positioned correctly and of the right size so the technique "Greeking" was used, with the lorem ipsum text in particular.

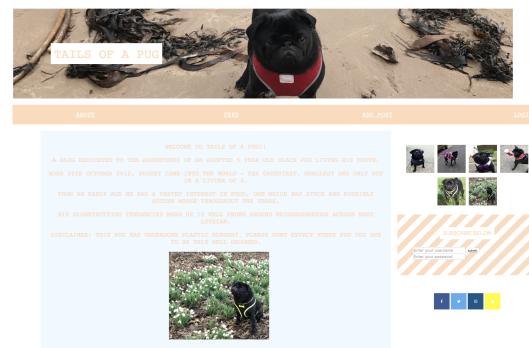
The About/Homepage was the first to be created, in order for the user to be able get to and from each page a href was used as well as "router.get" request.

The homepage gives the user the option to subscribe to the site, they type in a user name and password, from that they are able to log in. They must log in to be able to add a post that way the blog is able to gather their session details.

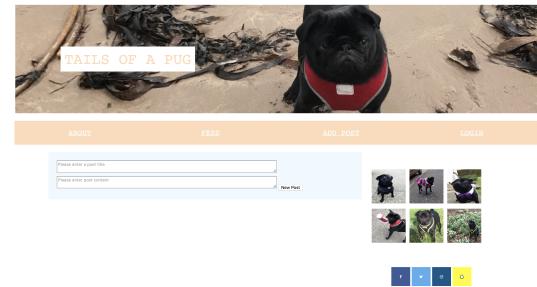
For a user to register an account on a blog they must create a user name and password, this is then added to the MongoDB database. In order to secure a high level of security, each user password in the database is hashed making it unrecognizable and unreadable, it is only discoverable if a key of random letters is inputted into the command line.[3]

Once logged in the user is able to view the sites feed or add a post of their own. Each post requires a Title and description in order for it to be created. Due to the way it was created when a post is added "" are generated round the title and description with the time posted directly underneath.

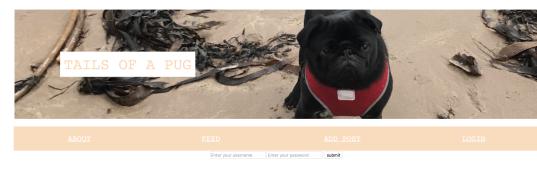
As previously stated there are social media links to the right of the blog, however these are just for aesthetics and don't actually link up to my own accounts. Where a link would be inserted to direct the user to a social media page it was replaced with a link back to the homepage, this is because I felt for this coursework use of my personal accounts would be inappropriate, however in future if a dedicated Facebook or twitter page was set up for the blog, the current link would be replaced and the correct one added.



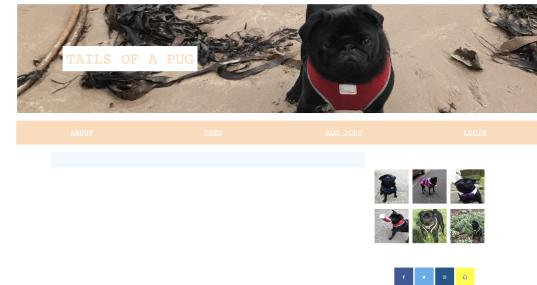
**Figure 4: Home Page**



**Figure 5: Add Posts**



**Figure 6 : Log in**



**Figure 7: Feed page**

## 4 Critical Evaluation

In relation to the scope of this assignment, the blog platform in question does not encompass all that was asked of it. However, the client interface has been created using CSS and Jade, in the place of HTML however both languages are very similar, whilst the server side has been developed with Node.js, MongoDB and Mongoose.

In keeping with the brief, one external CSS style sheet was used for the creation of the social media icons which has been referenced below on the adjacent page, as well as any our learning materials that aided my learning in this assignment.

The marking guideline advises that in order to gain a pass mark in this assignment a user is able to add a post, which is something this platform is able to do. It also has the added ability of allowing a user to register and log in, with the extra security level of hashing their password in the MongoDB database.

Time was taken to ensure the design was as aesthetically pleasing as possible. Major design flaws in some websites can stem from their colour choice and make the user either not want to return after using it or simply dismiss it on looks alone. From the first coursework I was able to make sue of the various colour palette websites online, as this was so beneficial I opted to use it again in the creation of this blog platform.

When comparing it against other blog platforms out there its clear to see the difference in skill sets. Due to this being my first involvement with client and server side, most of my time was consumed about gaining the basics rather then developing a blog platform with more intricate features.

Despite being able to do the above, there are a number of features that should be included that haven't. For example, giving the user the option of editing one of their posts or deleting it if they longer wish to have it there.

However, if the platform were to be built upon or developed from scratch again there are a number of features that would be added to it.

Firstly, as the the user is now set up on the database it makes it easier to be able to delete or edit their post, due to certain time constraints my primary focus was to ensure the user could at least add a post, which they are able to do. In theory, the other two aspects should require the same effort, so if given more time I think this would become an integrated part of the site.

Secondly, some design features that could be updated are my log in page. I am aware that the boxes are relatively small so some users that struggle to see small text may find it more difficult, so this is something that would be fixed immediately with the use of CSS and Jade.

In addition to this, the display area of where the user adds a blog post would also need to be addressed. At this current moment I am unsure how to display the post without the inverted commas "" around the title and description, but this is something that can definitely be researched further.

## 5 Personal Evaluation

Reflecting on the assignment that I have produced, I am disappointed I was not able to offer the user more functions to use on the platform.

Time management, although a cliche, was a major factor in certain options being unavailable to the user. In particular, I underestimated the length of time it would take me to understand the use of Node.js and all its accompanying features.

There are definite areas of improvement have as stated above, even though this assignment is now completed, i firmly believe I will continue to improve on this project, as although I did struggle to complete it, it reaffirmed the idea that I am on the right degree course for me.

Despite all of the above, I am proud of the piece of work I was able to produce and will continue to broaden my knowledge and gain valuable skills for the future in the process.

## References

As this is something I had never created or encountered before, various different learning materials were used in various different forms such as videos, books, website tutorials and online journals.

[1] To gain a better understanding on Node.js

<https://rd.springer.com/book/10.1007/978-1-4842-0187-9>

[2] A very helpful youtube channel on all things related to Node.js

<https://www.youtube.com/user/themanthandave>

[3] Password hashing using bcrypt

<https://www.npmjs.com/package/bcrypt>

[4] HTML to Jade converter

<http://html2jade.vida.io>

[5] Ensuring all items that needed to be downloaded were

<https://medium.com/of-all-things-tech-progress/startng-with-authentication-a-tutorial-with-node-js-and-mongodb-25d524ca0359>

[6] External CSS stylesheet

<https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css>

[7] To compress pictures and gain url

<http://tinypic.com>