THE LIBRARY

Rationale

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**1 RATIONALE**

This is a rationale for the library website project for Interactive Development 301 in which any chosen technologies can be used. I chose to use newer technologies like AngularJS, NodeJS and ExpressJS that are currently very popular in the development community. This rationale will explain and elaborate on the design and development choices I made before starting and during the project.

**2 TECHNOLOGIES**

I was inspired to use newer technologies in my project like NodeJS and ExpressJS rather than Apache and PHP. I have been familiar with the traditional LAMP stack for quite a while and wanted to start learning the newer and improved MEAN stack, consisting of MongoDB, ExpressJS, AngularJS and NodeJS. Although I first wanted to use MongoDB as the database layer for the project, it turned out to be a bit tricky. I was limited by time and knowledge so I chose to replace MongoDB with MySQL and then in sense making it a M\*EAN stack application.

AnuglarJS is a front-end library written by the developers at Google. AngularJS extends the capabilities of HTML to make it easy to develop application quickly and effectively. NodeJS is a new platform built on Javascript and ExpressJS is a NodeJS framework used to write Node applications.

With in my Node development environment, I setup a server using Express. Express handles the routes of the application too serve both the front-end of the application as well as the API side. Using Express I connect to a local MySQL database and encode the data into JSON to be display on the API route ( /api/v1/… ). Express also handles the route for the front-end application on the root directory and serves the AngularJS application.

AngularJS is the used to get information from the API route and display it within the website. The API serves the documents as Javascript objects in JSON format. Each document has an “img” property, which stores the image name and extension. The images are stored inside the public folder and retrieved through a path created by AngularJS.

**3 DESIGN CHOICES**

I made various design choices throughout the project and changed the look of the website a few times. I first used a bootstrap theme call AdminLTE but it turned out to be cluttered with extra features I did not need. I ended up using a bootstrap theme called Flat UI. Flat UI is a very minimal, flat design theme that worked perfectly with the project. I had just what I needed and nothing more.

Flat UI was also a good choice because I wanted the website to be very clean and minimal looking. The website has four different pages: Home, Book, Articles, Papers and also incorporate a search box and the top right-hand side. The home page list all of the available documents were as the Books, Articles and Papers pages list their respective document types.

The design of the database is extremely simple. It contains one table, which stores all of the documents. Each document has a field called “type” in which the document type is declared.

**4 OTHER FEATURES**

As I was using new technology that I was still learning, there were some features that I could not implement like the login and authentication system, and the favorite feature.

I tried using Passport and Satellizer but did not succeed in making it work. I was having trouble connecting it to the database and using Javascript Web Tokens. For the favorite feature I opted to go for the use of browser cookies. I tried using the cookies directive from Angular but could not seems to get it working. I suspect that I was to the with the key, value pairs of the cookies system.

**5 CONCLUSION**

Although there was some feature I could not implement, I feel that by using the new technologies explained above that I have learned a lot regarding them. I would like to extend the features of this project when I get time as I would like to learn more about NodeJS and ExpressJS.

I conclude that the project I have made for Interactive Devlepment 301 is a simplistic, clean and minimal website for an online library which provides book, articles and papers.