# CAPSTONE 2018 – Website

## User Types

### Researcher

The researcher user are the users who will be creating and uploading content to the website and connected database. They will be able to use the site to write articles and upload their content to be hosted on the server.

#### Capabilities/Interactions with database

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Content** | **User (Self)** | **Users (Overall)** |
| **Create** | ✔ | ✔ |  |
| **Read** | ✔ | ✔ |  |
| **Update** | ✔ | ✔ |  |
| **Delete** | ✔ | ✔ |  |

### Reader

The reader is only able to access the website without manipulating the content related data of the database besides user creation and log in.

#### Capabilities/Interactions with database

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Content** | **User (Self)** | **Users (Overall)** |
| **Create** |  | ✔ |  |
| **Read** | ✔ | ✔ |  |
| **Update** |  | ✔ |  |
| **Delete** |  | ✔ |  |

### Admin

The admin role has many similar capabilities to the researcher, being able to access and manipulate the content on the database and the site. Admins also have other capabilities related to user data adjustments; admins can change the role of a user, delete users and receive feedback from users.

#### Capabilities/Interactions with database

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Content** | **User (Self)** | **Users (Overall)** |
| **Create** | ✔ | ✔ | ✔ |
| **Read** | ✔ | ✔ | ✔ |
| **Update** | ✔ | ✔ | ✔ |
| **Delete** | ✔ | ✔ | ✔ |

## Technologies/Languages

### **Required Technologies**

#### HTML

HTML pages will be used as a template for article pages and will be the overall structure for the site. HTML5 will be the version used.

#### JavaScript

JavaScript will be used for generic checking on the client side of the server. For purposes of client-side validation that cannot be handled by HTML5.

Furthermore, JavaScript’s node framework and its vast array of packages available to it for dynamic html pages and ability to interact with many forms of data have made it a more optimal choice for the team. Also most of the team is somewhat familiar with JavaScript allowing for more members to work on it if necessary. JavaScript also has in built handlings for communication between a browser and a server, further necessitating it in the project.

#### SQL

SQL will be used to handle user data and reference data relating to documents.

#### Document DB/BLOB Storage

Document DB or BLOB storage will need to be implemented to meet the project requirement for the researchers to upload their documents, such as papers or videos. Documents cannot be stored on an SQL data-table and therefore must be stored on a BLOB Storage or something similar. This can be done through AWS (s3) or Microsoft Azure.

### **Optional Technologies**

#### Polymer

The Polymer framework will allow for the site to have an aesthetic similar or consistent with Google. Polymer also allows for a more customisable website. However, it is not wholly necessary for the project to meet the requirements of the client.

#### Django

Should the functionality of Node or the inexperience with SQL should cause problems for the project, the team can revert to the Django framework in Python. This has not been the first choice because experience with BLOB storage and JavaScript outweighed the familiarity of Django.

## Database Structure

## Prototype Requirements

The prototype that will be required to be shown at the end of semester will require the following features to be considered satisfactory or complete by the end of semester. These requirements include:

### Localhost version

A localhost version of the website can be served with the other bear minimum requirements based from the client’s specifications

### Readable Articles

Users can access the articles without needing to log in to the website. The focus of the prototype is based around the content of the site rather than the user interaction.

### Upload Documents

Researchers can upload their documents and other accompanying research bits directly through the server. This does not necessarily have to be completed through the website itself.