

CS39930 Web-based Major Project

Project Outline

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Introduction

The primary customer is *Bernie Tiddeman*, a researcher at the Aberystwyth University, alongside other research staff at Aberystwyth and Bangor Universities.

The expectation is to have a website which provides data about images of crabs, such as time, location, species, sex, length, fishing vessel etc., as well as allow different queries to be executed, such as time range, location range etc.

Functions

The website will allow the researchers to upload images and data associated with them, which will then be displayed on the website. The website will allow users to run various queries on the data. Data will also possibly be displayed on a map (dependent on further requirements/implementation).

There is potential for having an API endpoint in order to help automate uploading of data, however this requires more discussion, as it could be quite a complex feature taking a week or more to implement, thus significantly reducing the amount spent on other, more important features.

The website will most likely allow for creation of graphs, and other statistics data, which should then be exportable in some format, either manually or by following some set of instructions.

Size/complexity of the site

The website in question is complex, with lots of different features required. The website will likely contain at least a few different sections, like:

- User login and password reset
- Admin management area
- Data management (uploading and editing)
- Public area where data is displayed

Most of the content on the website will be stored in the database, except for images, which are likely to be stored on the server and then accessed when needed.

The hardest part will likely be generating data, and making queries, as this will require formulas to be written and implemented in order to generate the required reports. However, if the client will require an API for automatic data upload, then this will by far be the most complex feature, taking quite a long time to implement.

Proposed technology to be used

I will likely be using a framework, which would enable me to build a website on top of a strong code base, without having to write it from scratch. I am also considering using a content management system (CMS) if there are enough plugins to suit such a specific purpose, but this requires slightly more research.

The last choice, is simply writing it from scratch, this is probably the worst method, as it would take a lot of time having to write everything, however it still involves using different libraries, because writing the entire system without using any third-party options would take a long time. It would also likely be rushed, and have poor code, given that I would have to program a lot of things for the first time.

Related sites

I was unable to find any existing websites which would be like what I am going to build. Primarily, it was because I was unsure of what to even look for, most of the things I came across were blogs and various research papers.