COMP2011 Web Application development

Coursework 2

Preliminaries

The coursework is worth 60% of the overall module grade. The coursework has a total of **60** marks available. The deliverable of this piece of coursework is a complete web application. The files should be compliant to HTML5 and CSS3 standards.

Requirements

Take care in reading the specification. You will be penalised if you fail to meet any of the requirements.

- All pages must conform to the HTML5 standard.
- All style sheets must conform to CSS3 standards.
- All styling should be done in a separate style sheet.
- You must not use any editor which assists in the creation of web pages, i.e. Dreamweaver and similar are not permitted.
- Your coursework solution must utilise the Flask web framework.
- Your coursework must be deployed and accessible somewhere (see section below).
- Accessibility has been considered within the web application
- Bootstrap has been incorporated to make a responsive web application. Alternatives are acceptable, as long as it is documented.
- All images or text used in the deliverable should be appropriately referenced and copyright should be obtained if you are using images.

Specification

You should design, implement, and deploy a web application of your choosing. Your application should incorporate the following features:

- Web forms allowing the user to enter data (including client side and server side validation).

- A database to store information.
  - At least two models
  - Many-to-many relationship
- The use of sessions and/or cookies.
- Authentication.
- Appropriate styling for the web application.
- A set of unit tests
- Appropriate logging.

Additionally, the website should include **at least one** of the following features:

- Bootstrap & jQuery (both)
- Javascript
- Advanced feature of HTML5, i.e., geolocation or local storage
- AJAX or Flask-RESTful

Possible ideas that might be implemented for this coursework include:

- a social media platform
- an e-commerce website
- a personalised record of books read by users.

It is good to consider what the idea and many-many relationship will be early on in this coursework, ideally by weeks 6-7 you should have decided.

If you are struggling for an idea or unsure if your idea will be suitable, then please talk to a module staff member during a lab session and we can discuss it together.

Deployment

Your app must be deployed and accessible somewhere on the web. We suggest PythonAnywhere. If you protect access to your site with a username and password, please be sure to provide that in the document you submit. You are welcome to deploy your app with a custom domain name but it is not required and will not earn you extra marks. Use of version control (like git) is suggested but not required, and not using it will not cause you to lose marks.

Final deliverables

You should submit the following;

- A zip file containing all resources to run the web application.

  You do not need to submit the virtual environment. Instead, activate your virtual environment, type 'pip freeze', save the list into a file called requirements.txt and include this in your submission with the code.

  [45 marks]

- A document in **pdf** format, containing the following
  - a statement of the purpose of your website and a list of features implemented.
  - a link to the deployed website and username/password if required to access.
  - an analysis of your web application. This would cover all sections listed in the specification section.
  - the evaluation should consider user experience relating to the design decisions.
  - a description of potential security issues your web application might encounter and how you have mitigated to remove/reduce their impact.
  - any references that are required for the content you have used.

  The document should be no more than **8 pages**, excluding references.

  [15 marks]

Submission

Your files must be submitted as a Zip archive. No other format will be accepted. Your zip archive and document should be submitted via the Blackboard VLE (Minerva) before the deadline. All submissions will be submitted to plagiarism detection software.

Submission date: 5pm Friday 10th December 2021