**WEB DEVELOPMENT & DEPLOYMENT PAIR PROJECT**

Create a pair of students within your lab group and fill in the spreadsheet with the details (project, names, student numbers) of your groups. Share them by 14/10/2020 at:

<https://docs.google.com/spreadsheets/d/1YIy8mLaN7fVYphs6jzymAuXMQa7BgHcCcHDCJKvlAog/edit?usp=sharing>

Develop a web application that interacts with a database via Node.JS and that includes an authentication mechanism. The application has to implement the 4 CRUD operations (Create/Read/Update/Delete).

An example is a book library application, with a pre-populated DB, that allows users to:

* Register: create, read**✓**, update or delete a profile with personal information, including a profile picture and password management (change, recovery)
* Authentication: Log in and log out **✓**
* Search: for books that match certain criteria (e.g. publication year, title or author containing a word)
* View: View search results **✓**
* Filter: The search results
* Add books to a personal area (e.g. “My Books”)
* Only logged in users can add books to the personal area **✓**
* Any user can search for books and see the results. **✓**

You are free to choose the exact application but consider the required components in the marking scheme below.

Students are not allowed to share their own code outside their group. Any external code snippets, libraries or frameworks used must be properly acknowledged (for example with comments in the code). Remember the policy on plagiarism – facilitators and perpetrators, both get zero.

Submit your project in a compressed ZIP folder via Brightspace by **23:59 on 07/12/2020**. Include the code folder, an SQL dump of the database and a readme.txt with configuration and deployment information. One submission per group is enough, but make sure there is one.

**Late submissions not accepted.**

We won't have live demos. **Demos should be recorded by the teams and uploaded to Brightspace**. I'll also check the possibility of using Bongo for Video assignment as well.

Individual discussion of contributions, understanding of the whole solution. Individual discussion mark as a multiplier of the overall project mark.

For example: Project mark = 50  
Discussion mark (student A) = 80%

Discussion mark (student B) = 100%

Final result, student A = 50\*80% = 40% Final result, student B = 50\*100% = 50%

This project is worth 75% of module marks. Each category of the marking scheme below is assessed in terms of attempt/poor/sufficient/good/excellent.

**Functionality:**

* Authentication and Personal vs Public areas – 10 marks**✓**
* CRUD operations with **MySQL/PostgreSQL/SQLite** - 10 marks
  + including profile management – 5 extra marks (limited to 100 marks overall)
* Advanced Search and Filter mechanism – 5 marks
* Validation of inputs (from forms) – 10 marks
* Asynchronous communication (AJAX, with DB, JSON or XML file) – 5 marks **✓**
  + Upload mechanism (for files) – 5 extra marks (limited to 100 marks overall)

**Usability/User Experience:**

* Communication with the User (error messages, etc.) – 5 marks
* jQuery (for animations) – 5 marks**✓**
* Bootstrap (for visuals) – 5 marks **✓**

**Code Quality/Security:**

* MVC design pattern – 10 marks**✓**
* DRY principle – 10 marks**✓**
* Prepared Statements (to avoid SQL injection) – 5 marks **✓**

**Documentation**

* Deployment instructions (readme.txt) – 10 marks

**Presentation**

* Demo – 5 marks
* Project overall - 5 marks

Please contact the lecturer in case any aspect of this assignment is not clear to you. Have fun!