# Server Side Web Development Project - 80% [Groups of 3]

# Library Management System Website

## Description

Students are to work in groups of three. In your group you will plan, design, and build a fully functioning dynamic web application. The following are the basic specifications:

Build a website for a library. The website will have two parts:

- The first part will be for the **public**. It will have a minimum of four pages to include the following pages: home, about us, contact us, and search our catalogue page.
- The second part is an **admin** website to allow the library to maintain information on its books, members etc. It will also be used to maintain the library's public website. It will be password protected. For this part, the username and password for all projects should be set to 'admin' and 'password' respectively.

The **home**, **about us** and **contact us** pages should be modifiable by the library staff using the admin password, i.e. he/she will be able to modify the title, text and images that will be displayed on each page.

The **search our catalogue** page will provide a search facility where website users can view the library's books. This should be a keyword search of books in the library database which searches the book title and author fields. The user should be able to search for (1) available books (i.e. those not on loan to another member) or (2) for all books.

The **admin** section will be password protected with sessions and cookies used to restrict access. The library staff should be able to log in to this section from the public home page. All website pages will be administered from within this admin section.

In the **admin** section the library staff will be able to create and modify an image gallery per public webpage. The image filename, page, and caption should be recorded. There can be a variable number of images per gallery.

The **admin** section should record all **books** in the library. The following information should be recorded for each book: Title, Author, ISBN number, Category (e.g. KidsAge9-12, AdultCrime). The admin section should provide admin users the ability to add new books, update an existing book, view a list of books and delete a book (CRUD functionality – Create, Read, Update and Delete).

The **admin** section should record all **members** of the library. The following information should be recorded for each member: Firstname, Surname, Address, Date of Birth, Phone. The admin section should provide CRUD functionality for the members, i.e. the ability to Create, Read, Update and Delete members.

The **admin** section should record all **BookLoans**. For each bookloan record the book, the member, the date that the book was taken out on loan and the date that the book was returned to the library. If the book is still on loan, the date the book is returned should be left null. The library staff should be able to:

- Check out a book to a member (i.e. create a bookloan). A book can only be checked out if no other member has that book currently checked out.
- Check in a book loan (i.e. update the date returned on the book)
- View a list of books currently checked out by a particular member
- Check if a particular book is currently checked out by any members

# Deliverables

## A. Due Date: 22nd April 2017

- Take screenshots of your application (home page + one for each page).
- Create a word file named **system_info.pdf** which includes:
  - Overview: how the system is designed and implemented (maximum two pages),
  - Screenshots (maximum 10) of the web application.

  Label all diagrams, and include an assignment coversheet at the front. Include the names and student numbers of all team members on the front page.
- Create one zipped file that should only contain:
  - system_info.pdf file (created above) and
  - Source code (include PHP, HTML, IMAGES, CSS, and database schema).
  - a file named **database.sql** which should contain the exported contents of your database. This can be generated using the export function in phpmyadmin.
- For submission, name the zipped file as:
  - *studentnumber1-studentnumber2-studentnumber3.zip*
- Make the submission onto moodle before the deadline.
- **On the Tuesday 25th and Friday 28th April, the lecture slot & both labs slots will be used for project demonstrations! Each team will give a demo of their web application.**

**Web Application Requirements:**

- You must handle form data in a secure manner e.g. use html and php validation techniques when handling user input.
- Make the website look professional by using good CSS techniques and appropriate content. You may use frameworks such as bootstrap to help with the front end development (html/css/javacript).

- The website must store its data in a MySQL database.
- The name of the database must be **libraryswd.**
- Your HTML / CSS & PHP code should be indented and commented.
- Your website should have user friendly, consistent navigation through the pages in the website.
- Connection to the database must be made in one external file.
- The home page of the site should be called **index.php**.

## Grading summary

**Marking Criteria**
Things to keep in mind:

- HTML, CSS, PHP, and MySQL must be original, indented and commented. You will be asked to explain any piece of code. Failure to explain code may be taken as evidence of plagiarism. Do not use someone else's design/code for the basic/advanced functionality of your site.
- In order to pass, students must present a working and usable application that covers the basic specifications provided above.

**Marks will be awarded for:**
Implementing features, Quality of HTML/CSS, Quality of PHP/Database design, Usability, Innovation.

**Mark Breakdown:**

- 10% Visual Design: Navigation / Layout / Imagery / HTML / CSS
- 10% Form Validation
- 10% Public Part of the System
- 10% Database Design
- 30% Private Part of the System
- 20% Code Quality
- 10% Any extra features added

**Deductions:**

- 10% Project not submitted properly as per the instructions (see submission section above)
- 20% Late submission (maximum 48 hours)

**Notes:**
This is a group project, and requires team work. Any group perceived not to be working together may be penalised.

# Frequently Asked Questions

**How do we submit the project? What is the late submission penalty?**
If you have these questions then you have not read the instructions! You must spend a few minutes to carefully read and understand the entire document before doing anything. In order to ensure the accuracy of your work, it is important that you understand the requirements.

**Can we provide advanced functionality?**
Your project is free to extend beyond the core functionality outlined above. The specifications that have been provided above are the minimum requirements you need to fulfil in order to pass the project work.

**Can we use a CSS framework such as Bootstrap?**
There is absolutely no problem in using a (Bootstrap) framework for your project. Students are encouraged to use such frameworks! But you should not use the default style of Bootstrap for the framework you intend to use, i.e. you will have to customise the style.

**Can we use JavaScript?**
This is not a requirement but you can use it. Remember JavaScript cannot replace PHP code.

**What content should we use for web pages?**
You need to come up with relevant content. Search for similar websites to get some ideas.

**Can we make a group of 2 or 4?**
Given the amount of work, group of 2 is not advisable. If you want to make a group of 4 then you should add extra features to the project work. That extra work should span across all dimensions of the project.

**Can we design/develop our own web application instead the fitness centre?**
Of course yes! Feel free to specify your own project proposal. This must be done before March 31st and it must be approved by the lecturer. The basic criterion is that your application must provide enough functionality to replace the given specification.

**There are some topics that we have not covered yet.**
We will cover all those topics 'well before' the project submission deadline.

**What will happen in project demo?**
This will be done during the lecture and lab slots where each group will be given 12-15 minutes for the demo. You will be asked to prepare 4/5 slides to set the context before doing the demo of your application.

**What is the best way to start?**

- Understand requirements and run brainstorming meetings,
- Design and distribute the work between group members,
- Code (& Integrate),
- Test & Fix