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| **Beirut Arab University Faculty of Science**  **Department of Mathematics and Computer Science**  **Project Overview** | **Course: CMPS246 – Web Programming Semester: Spring 2021-2022**  **Date: 31/03/2022** |

## **Web Development Project Overview**

CMPS246 : Web Programming

### **Introduction and Purpose:**

This project attempts to approximate the development process of a “real world” web application.

To that end, it has overarching purposes.

1. The project must incorporate several popular web development technologies.

This web development project will give you an opportunity to develop the important skill of integrating various technologies with one another in a single application. The tools and programming languages taught in a classroom setting and practiced in isolation from one another.

You must be able to make different technologies “play nicely” with one another effectively, efficiently, and elegantly, it is a key strength of successful web developers.

1. In this approach, a large project is broken down into several smaller tasks and features, each of which is designed, developed, and deployed on its own timeline (sometimes consecutively, sometimes in parallel with one another).

This web development project will take an iterative strategy in its implementation.

Throughout the course, you will create and launch several project milestones, small releases of feature subsets which will gradually lead to the completion of a complex web application**.**

1. The project must show your creativity in development and implementation.

Embracing this aspect of the process makes one’s work more enjoyable and meaningful, and raises the quality of the final product.

1. The requirements for this project must address the basic functionality of the system as well as provide guidance regarding the tools used to build it.

However, matters of user experience design (i.e. “look and feel”) as well as several features will be left largely to YOUR discretion in terms of how they are constructed. This will hopefully afford you the flexibility and freedom to express your creativity in developing this web application.

**High Level Project Description:**

For this project, you will build a full web application that will provide the means to manage data and how they relate to each other.

The system has to be built using the following technologies:

1. On the front-end, the user experience will be crafted using HTML, CSS, JavaScript, and some libraries (bootstrap, jQuery, ...)**.**
2. Data managed by the application will be stored in a MySQL.
3. The web application itself will be written in php**.**
4. Various REST-full web services preferably to be integrated into the project to enable it to interact with third party services (i.e. Google Maps, etc.)

**Milestones:**

Specifications for each milestone will be provided to you as the project progresses. The following is a listing of each milestone along with its focus and scope.

1. Application responsive web pages using HTML, CSS, and JS.
2. Responsive page for admin using HTML, CSS, and JS.
3. Database schema diagram and SQL to create and drop the system’s tables and constraints in MySQL.
4. Elements controller, models and views using PHP.
5. User interface enhancements (i.e. promotion timer widget, product upload progress bar) using JavaScript and PHP.
6. Admin Controller and views using PHP (this is a stretch milestone).
7. Displaying maps using web services ***if needed*.**

**Guidelines:**

1. You have to work on this project in teams of two.

You must inform the professor and the teaching assistant of your team members before starting the first milestone of the project, and you must complete the entire project as a team.

1. Tasks for each project milestone should be divided up so that each team member does a fair share of the work required.
2. On or before the date that each milestone is due, you must submit the files you have created or modified for the milestone along with a detailed explanation of your work to the professor and the teaching assistant via email, or any provided submission link.
3. Once you submit a milestone, the lab instructor will evaluate your work, the professor will evaluate your work and adjust your grade for the milestone accordingly.
4. The work you do for each milestone should not break features or functionality you have already implemented for the project.
5. Throughout the course of the project, you may realize that there are corrections or improvements you can make to milestones you have already turned in.

This is a natural part of process and is to be expected. When this happens, you are encouraged to contact the lab instructor about the changes you are considering, **and if the two of you agree that the modifications are warranted**, you should add them to your project.

Once your changes are in place, alert the instructor so that your work may be reviewed and your milestone and overall project grade can potentially be adjusted appropriately**.**

**Final Project Site:**

The primary criteria I’ll be looking for in the final web site are as follows:

1. Each team member must produce at least two unique content areas, to be arranged and documented in advance.
2. Valid HTML and CSS documents, properly linked within a top-level directory.
3. External CSS document/s (if using Bootstrap, you must also include a custom CSS stylesheet to add your own styles).
4. Original graphic design.
5. No copyright violations: images and media must come from the public domain, be Creative Commons or otherwise licensed for reuse and sharing, or you must give credit to the original author of the media item.
6. No broken links or missing images.
7. Site follows accessibility guidelines: e.g., images include <alt> tags, contrast and colors consider the needs of the visually impaired and color-blind.

**Bootstrapping and Borrowing:**

**As you know, I do allow some amount of Bootstrapping and code borrowing in assignments for this class.** That should make the development process much faster and easier for you, as long as you understand how the tools work.

**However, when it comes to Bootstrap and borrowing, there is such thing as too much.**

There is a point at which it becomes clear that this isn’t an original site with borrowed components but, for example, a website template created by an advanced and skilled developer and slightly modified to pass as a student project.

Don’t do this, *please*.

**You must write *the majority of the code in all your assignments and projects yourself, individually (in the case of labs) or as a collaborative original effort along with your group members (this applies to the final project only)*.**

This means that:

1. the overall framework/layout of each of your sites and submissions must always be your own original work;
2. when you borrow something from an example you find online or in a textbook, you must apply sufficient modification, customization, and original effort to integrate the borrowed code into your overall submission.

If you submit an assignment containing methods that we haven’t learned about in class, you may be asked to demonstrate that you understand and can control those methods.

**If you aren’t able to demonstrate this, you will automatically receive a 0 for the assignment–and if we’re able to find the code you borrowed online or other proof of plagiarism/sharing/copying, it’ll also be turned over to the Honor Court.**

* **You may not download a fully functional web page or template and turn it in as your own, even if you tweak a few things.**
* **You may not take code written by someone else and turn it in as your own, even if you tweak a few things. Such actions will be considered full-on plagiarism and turned over to the Honor Court.**

This is not as hard to catch as you might think. We’re familiar with the usual red flags, and various code-matching resources make it easy to check.

You may borrow methods and components, but you must understand whatever you borrow enough to customize and integrate it into your own work, and the overall frameworks of your projects must be entirely your own.

**If you’re unclear about the definition and/or practice of plagiarism in this class or elsewhere, it is your responsibility to remedy that before you make a mistake that could have long-term effects.**