Interactive Web-Based Application Project Requirements

The focus of this course is to experience broad and deep aspects of web-based application development to support a **cause or interest** that you care about by developing an interactive website. This semester you will design, and develop an interactive web-based application that incorporates HTML, CSS, JavaScript and jQuery-based interactive elements and accesses external data. You will start with an idea of an interactive web-based application and will keep expanding and refining it throughout the semester. You will submit this project in **four** progressive assignments and will get feedback from us. You will also evaluate websites of your peers **once** during the semester to give them feedback. Each of these assignment submissions and peer evaluations will add to your final interactive web-based application project grade (**40%** of your final grade). Please follow the "**project module**" for all the assignment details and submission links related to this project.

Your web application should provide a service for an individual, group, or business (your client) that you care about. The web application should provide a service that does not yet exist, or implementation of an extended existing service. The web application can improve the visibility of the stakeholder (your client/user), enable better communication among the individuals in the stakeholder group, and improve the recruitment of people and funds to the stakeholder group. Please follow the following two steps to select a client and category for your project.

Step 01: Choose **one** of the following **client categories** for your project:

1. Category 01(client - peer/classmate): Under this category, your client will be a peer or classmate in this course and you will be developing the website according to their requirements.
2. Category 02 (client outside of the class): Under this category, you need to contact an external client who is not enrolled in this course and you have to develop the website according to their requirements.

Step 02: Choose one of the following **project (website) categories** which you will develop for **your client chosen in Step 01.** Please discuss the categories with your client(s) and select one of the following according to your client's requirements.

1. Design and develop a web-based application for an individual (client) that you know to promote their profession, interest or community projects.
2. Design and develop a web-based application for a community group (client) to encourage communication about activities and projects.
3. Design and develop a web-based application for a student group (client) at UNCC that encourages participation and communication such as 49ers Security division or HCI Interact.

4. Design and develop an online game for a student (client) who would like to learn about the basics of JavaScript, CSS or any other programming language.

Note:

For this project, you need to **find a real-life client**, for whom you are going to design and develop the website. This will help you in two ways. First, you will experience developing a website for a different person/group according to their need/requirement, similar to a real-life project. Second, the client can provide you the content including texts and pictures, and you can focus on designing, developing and improving (according to your classmates or outside client) the website.

Please keep in mind that this project will also require you to **plan** the timeline of "when and how" you are going to communicate with your client so that you can submit all the project assignments in time according to its **deadlines**.

In addition, keep in mind **e-portfolio** or **portfolio websites** are **not allowed**.

The following are required for the complete project:

1. At least 4 individual web pages that must include:
    a. A home page (name it as index.html) and 3 other webpages
    b. Navigation Bar that is consistent across web site
    c. Header and Footer sections that are consistent across the web application (Footers should include HTML and CSS validation links)
    d. Interactivity using JavaScript/jQuery
    e. jQuery-UI widget and other plugins
    f. AJAX functionalities
2. Separation of concerns
    a. No embedded code allowed. Separate files for HTML, CSS and JavaScript
3. Code Design
    a. Appropriate method, variable and object names
    b. Proper indentation
    c. Good commenting (explains what code is doing, cite sources of code, etc.)
    d. Well-organized, elegant solution
4. Address Accessibility
5. Remember usability and performance

Standards for Web Page Design and Development:

1. Pages must follow valid HTML5 and CSS3 standard. They must validate error-free.
2. There must be a complete separation of concerns.

    a. All CSS should be included with separate files – only link(s) to the **external** *.css files are allowed in the HTML document.

    b. All JavaScript should included with separate files – only link(s) to the **external** *.js files are allowed in the HTML document.

3. Each project will be evaluated based on efficiency and design choices.
   a. Code design will be evaluated based on ease of maintenance, understandability, documentation and reusability.
      i. Proper indentation will be evaluated.
      ii. Proper commenting will be evaluated
      iii. Existing library files will not be evaluated.
      iv. Appropriate naming conventions will be evaluated
      v. Well-organized, elegant solution
   b. Web Design will be evaluated based on:
      i. Web layout
      ii. Purposeful content
      iii. Aesthetics
      iv. Ease of use
      v. Navigation
      vi. Interactivity
      vii. Accessibility

Milestones [you will find a requirement document and submission link for each of the below milestones on Canvas under project module]:

Assignment-1- Web-Application-Requirement-And-Design: For this assignment, you will develop a Requirements and Design document. It will include an overview of your web application, your client information, a list of your stakeholders, a site map, an overview of each of the webpages, and a specification of the interactive features that you will implement. **Due 11:59pm – Sunday Feb 14.**

Assignment -2– Foundational-Web-Design: The initial design should present the foundational web site's structure with the content, navigation bar, header, and footer using HTML and CSS. Your web site must have at a minimum of **4** individual pages. **Due 11:59pm – Sunday March 14.**

Peer-Evaluation: You will evaluate the website design of two peers using web design guidelines. **Due 11:59pm – Sunday March 21.**

Assignment-3 – Interactive-Web-Application: Your website must provide interactivity using JavaScript/jQuery. You must also implement at least 2 jQuery Plugins and at least one jQuery-UI widget. **Due 11:59pm – Sunday April 11.**

Assignment-4 – Final-Web-Application: The final submission should utilizes at least 2 AJAX requests to update the website. It should also addresses the comments and critiques from your TAs, clients, and your peer evaluations. It should also meet some accessibility principles. The website should be completed and meet all the above requirements for the **final web application**, a **presentation video, and a summary document**. **Due 11:59pm – Wednesday May 5** (note: date is Wednesday instead of Sunday).