Request for Proposal (RFP)

Web Application for Web Content

Simplifying Web Content Maintenance for Academic Departments

**RFP Issue Date**: Thursday, August 29, 2019.

**Response / Project Proposal Approval Deadline**: Tuesday, October 1, 2019

# Problem Statement

One of the reasons the University’s department’s websites contain aging and inaccurate information is that departments do not have resources capable of, and available to, update content in WordPress. This RFP addresses this problem and lays out general requirements for a proof of concept solution.

Teams whose RFP responses are selected to proceed to implementation will propose two components:

* Department of Computer Science website (the website). Unfortunately, the client is unable to make available the actual WordPress-maintained website of the Department of Computer Science. Therefore, teams are asked to specify and design a prototype department website. All the proposed content on the website is to target prospective students. An *Opportunities for Students* feature is more important than, say, CV’s for faculty and instructional staff. The prototype website should solely focus on the BS in Computer Science, undergraduate students, and courses offered in the Department. Required courses offered in other departments may be omitted. The minimum requirements for the website are enumerated in Section 2.1.
* Easy Web (EW). The second component of the project is a web application that allows a user to easily maintain the content of identified features of the website. A very simple example would be to allow users to a maintain a welcome message – possibly appearing on the website homepage. Another possible feature of the EW web application could be to maintain a list of links.

This RFP only loosely specifies the solution. Good, innovative, and user-friendly features are encouraged. The successful RFP response will contain novel ideas for both the website and EW. This RFP does not specifically dictate the design to be used to associate website features and maintenance capabilities of EW.

# Informal User Requirements

Proposed solutions must meet the following informal user requirements.

## Website User Requirements

The portion of the website to be developed should focus on features that would be of interest to prospective students – both traditional as well as non-traditional students. An accepted proposal must contain a plan to implement the following general user requirements of the Department website:

* **Welcome Message.**
* **Contact Us.** The website is to allow visitors to leave questions on the website along with email addresses for responses. Handling these requests for information are to be handled in EW.
* **Opportunities for Students.** The website must enumerate opportunities for students. The design of where this appears on the website is left to the proposing teams. It should include opportunities in cybersecurity, AR/VR, data visualization, and AI/ML. Other opportunities for students should also be included, e.g., student organizations.
* **Department News.**

Responses proposing additional website content are encouraged.

## EW User Requirements

The EW web application must provide an easy way to manage content on the website. EW must be a separate web application that does not require the user to directly edit HTML or learn to use an existing content management system. EW is to create content text, lists, etc. that are then “read into” the website on demand. The necessary requirements for EW are:

* **Authentication.** EW must support secure access through a simple username and password account mechanism.
* **User registration.** EW must provide a publicly available feature allowing users to request registration for authentication to use EW. The user will enter a proposed username and password. This request must then trigger an email message to a specific email address and approval of the request is complete by simply replying to the email message. (A member of the team may be the recipient of these email messages and may reply either “Approved” or “Not Approved”.
* **Security.** EW must assure that every page of the application be secure, i.e., no web user should be able to access any of the pages of the web application.
* **Maintain Specific Content.** The minimum requirement is that EW be capable of making changes to at least four content components of the website. The four content components can be fixed, i.e., tied to existing parts of the website. For example, the EW could allow a user to add or modify the content of the welcome message on the website.

# Solution Technical Requirements

The successful RFP response must satisfy the following technical requirements.

## Website Technical Requirements

* **Browser.** The website need only run in a single browser. Teams are encouraged not to go down the rabbit hole of testing the website in multiple browsers.
* **Responsive.** A responsive design for the website is a “nice-to-have” but not a “must have”.
* **Deployment and Accessibility.** The website must be accessible through the targeted browser from any user, i.e., the website must be deployed on a standard web-accessible server.
* **Database.** The website must utilize a database to store the information required to handle posted requests for information. Just for the purpose of the prototype implementation, this can be the same database utilized by EW.

## EW Technical Requirements

* **Web Application (or Mobile Application).** EW must be accessible via a designated browser or a mobile application. Whether from a browser or mobile application, the architecture of EW must include a client-side and server-side component.
* **Concurrent Users.** Your solution must be capable of supporting at least 5 concurrent users. This might be handled, e.g., via a session ID generated and checked by the server-side application.
* **Deployment and Accessibility.** Users are to have access to the application login page from any instance of the specified browser.

# Mandated Response Content

Responses to this RFP must include the follow sections and include the specified information for each section. (Note the “4.” prefix in the section numbers below are the result of the RFP authors being too lazy not to use MS Word’s automatically numbered headings. Your actual section heading will be “1.” and not “3.1”.) An MS Word template for the RFP responses will be provided *the week of* Tuesday September 3, 2019.

## Overview

Include a summary of your team’s proposal. What are the highlights of your solution? What distinguishes your response? Provide the client with clear and compelling reasons to reasons to read the remainder of the proposal.

## User Requirements

This section must convey the following:

### User Interface.

For both the website and EW, the proposal must inform the client of the proposed look and feel of the solution’s UI and at least four sample pages (or wireframe representations of the planned UI).

### Functional Requirements.

Refine the broad statement of requirements contained in Section 1 of this RFP. Include functional requirements for users ability to post requests for information. The requirements for EW are to be complete – provide a requirements specification for each feature your team will implement in the prototype solution. An approved list of requirements will constitute a contract with the client. The implemented EW prototype will be assessed, in part, on its supporting the requirements contained in the RFP response.

You may select the methodology for stating these requirements. Both (agile) user stories and annotated page mockup functionality are acceptable, i.e., storyboards. Should the vendor (your team) opt for a different representation, please obtain the approval of the client (the instructor).

## High-level Design (Architecture).

Responses must include diagrams depicting the architecture of your proposed solution. The architecture diagrams must represent all the components of your proposed solution and the distinct interfaces between components.

## EW Implementing Technologies.

Clearly specify the technologies to be utilized in the implementation of EW. This section is to include an inventory of all the technologies contained in a deployed solution. (Development tools, e.g., the IDE(s) to be leveraged are included it the next section.)

### Client-side Technologies.

Specify the technology to be used to implement the client-side component of your solution for EW. Include all supporting technologies, e.g., Javascript, supporting UI functionality, HTML 5 for web page content, etc. Be sure to include any JavaScript libraries you team will utilize.

### Client-server Interaction.

Your response must clearly identify the technologies to be employed for each component interfaces identified in the high-level design – in this case, the interface from the client to the server. For example, will your solution leverage web service calls using, e.g., Ajax?

### Web Application Technologies.

What technologies will be employed in the implementation of your server-side solution of EW? Just as an example, a Java-based web application solution might include Java servlets, Java Server Pages (JSP’s), Java Messaging Service (JMS) and Java Database Connections (JDBC). Be sure to enumerate all the server-side web application technologies you plan to leverage.

### Database Design.

Proposals must include a preliminary database design. The design may be expressed using entity relationship diagrams or other analogous database design representations.

## Supporting Tools

Clearly enumerate the tools your team will use to develop the implementation.

### Tools Used in Developing the Proposal.

Identify any software your team used in the preparation of the technical components of your response. Did you use an E-R tool? Did you use a web authoring tool?

### Tools to be Used in the Solution Implementation.

Identify all the tools your team will use in constructing your solution. This should include basic tools such as the

* Compiler(s)
* IDE
* RDBMS
* Target browser. Your final demonstration to the client can be restricted to a single browser.

Please enumerate any other planned supporting tools.

## Software Development Methodology

Does your team plan on leveraging a software development methodology? If so, which methodology and briefly describe your team’s planned customization of the methodology. If your team plans to use an agile methodology, specify the planned sprints in the implementation.

## Project Schedule

Include the project plan you will utilize to meet the final project deadline for presenting and demonstrating your implementation of your proposed solution.

Your project plan must define your team’s intermediate project milestones and the team member responsible for the artifacts targeted for each milestone. Note the responsible team member will not necessarily do all the work. They are, however, solely responsible for ensuring the milestone is met.

## Team Strengths.

Provide a very brief bio for each team member. Highlight each member’s technical competencies and experiences. Why should the client choose your team to implement a prototype solution?

# Consulting with Client

Please use the Blackboard Blog titled *RFP Clarification Questions* to post questions requesting clarification of the RFP. It is understood teams may not want to post questions that may reveal proprietary ideas about their concepts for their solution to be described in the RFP response.