**Assignment Instructions**

Advanced Web Design Fall 2013 Group Project

Introduction

You will be tasked with building a web application that aggregates data and interfaces from various public web-based API’s.  Your focus will be on the interactive front-end design, but the project will need to be functional and therefore may require some server-side components.  This task will be performed within a group setting, where each group member will be expected to contribute equally.

Deliverables

**Group shared submissions (one per group)**

* **Project Proposal**: a written proposal about the project BEFORE it is implemented, describing: the project objective, the API’s used, and the proposed user interactions
* **Web Application**: the working web-based application itself
  + Combines at least 3 public web-based API’s or equivalent
* **Project Summary**: a written summary of the project AFTER implementation, describing: the project objective, the API’s used, the user interactions, the implementations for each user interaction, and group member roles
* **Project Presentation**: a 5-minute in-class presentation describing the key points about the project

**Individual deliverables (one per group member, individually assessed)**

* Individual Assessment: a written description of your own role within the group, items you worked on, challenges faced, and an assessment of each of the other group member’s work

Project Proposal

The project proposal is a written document that will typically be a 2-3 page description of the project itself.  This will be submitted before work on the actual project begins.  The goal of the proposal is to provide a full overview of the proposed project to allow the instructor to determine the feasibility of content in context with the class as well as the feasibility of implementation within the timeline.

The proposal must address the following points:

* **Project Objective**: a few paragraphs describing the purpose of the project itself.  This would provide to the reader a basic understanding of what the project is about, and generally how it will work when implemented.
* **Proposed User Interactions**:
  + At least 5 distinct high-level interactions a user of the web application will take
  + Each user interaction describes an action the user wishes to perform, what the expected result will be, and how the user performs the action itself
  + For each, also explain how data or portions of an API is utilized to facilitate that action
* **API’s**
  + **A list of the API’s you intend to use.  There must be at least 3.**
  + **For each API, briefly list what components of that API are used and how they relate to components in the other API’s where applicable**
* **Sample screen layouts**
  + **2-3 simple screen layouts showing some of the distinct user interactions and functionality (can use Word, Visio, or other diagramming software, does not need to be HTML)**
* **Group member roles and responsiblities**
  + **See the description of potential roles in the project summary below**
* **Technologies you intend to use**
  + **A list of technologies that can potentially support your project (e.g. Bootstrap, jQuery, jQueryUI, Angular.js, etc.)**

After submission of the proposal, the instructor will review the proposal and meet with one or more group members to make adjustments to the proposal.  Once any adjustments are made, the instructor will approve the project and work may begin.

Web Application

The web application is the core deliverable for the group project.  The group must produce a working product that successfully implements the features set forth in the project proposal.  The application itself can be implemented on any web server, though Cloud9 is recommended.

Upon submission of the project, all source code, images, and other resources required to make the application function must be included and accessible by the instructor.  The project must be functional and work according to the description in the Project Summary, as well as the initial proposal.

Since functionality of the application is open-ended, the following concepts learned from this class are expected to be utilized as:

* Public API usage - at least 3 API’s are combined to implement the project
* AJAX
* Use of JSON, XML, or other structured data formats
* JavaScript-enabled interface components (e.g. bootstrap, jQuery UI, etc.)

The web application interface is also expected to be clean and organized.  Features and behaviors should be presented in the neatest and most intuitive fashion possible.  Fundamental design guidelines learned from pre-requisite classes, such as Web Design, apply here.

Project Summary

The project summary provides a written description of the project as it has been implemented by the group.  The functionality of the end-product may differ slightly than intended in the initial proposal, depending on challenges faced throughout the implementation phase.  This is expected to be at least 4-5 pages in text length.  The goal is to provide a full understanding to the reader about the project and its uses, as well as a technical description of how it works.

Included should be an updated version of the:

* Project Objective
* Proposed User Interactions
* API’s

In addition, you should also include:

* **Implementation Details**: a technical description of the implementation for each user interaction.  Explain what technologies were required and what techniques were used to implement each feature.  Explain what data was used in which instances, and how they related to other data from API’s or user input in the project.
* **Group Member Roles**: a description of the role each group member played within the group throughout all aspects of work on the project.

The project summary must be submitted once the work on the web application is completed.  Its content should also be utilized and drawn upon in the project presentation.

Project Presentation

Your group will collectively give a 5-minute presentation on the project.  This will be performed in-class, followed by a short Q&A session.  This presentation should be designed to explain the key points from the project summary, give a quick demonstration of one or two features, and highlight at least one technical implementation concept.

Presentation items:

* Key Points: draw on 5 key features from the project objective and user interactions from the project summary.  This should quickly and easily explain the reason why the web application is useful to users.
* Demo: demonstrate one or two key features or user interactions that the web application can perform.  Try to wow the audience with your amazing product.
* Technical Highlight: explain at least one technical implementation behind one of the features or user interactions, preferably the most complex.  Your audience is a class full of developers, so they are particularly interested in the tech details.

Individual Assessment

You will also individually provide an assessment of your experience working with the group.  You must log your participation and contributions to the work towards the proposal.  In addition, you are asked to grade the performance of each of your other group members from A, B, C, D, F grade values.  This grade will factor into each of the member’s individual graded portion of the project.  You must provide your rationale for giving any grade value, and explain any instances where performance was excellent or poor.  The individual assessment is provided privately and separately from the group project submission, via Sakai.

Group Members and Roles

You will be assigned to a group by the instructor, and there will be 3-5 total members.

There will be a number of roles available to each of you in the group, which your group must come to a consensus on assignment within the group.  Roles must be created in order to maximize the efforts of the group and to ensure that work is divided so that all group members will actively participate in the project. These roles must be submitted to the instructor as soon as possible.

While roles will exist, it is important that the work of the group is consistent and presented cohesively. Though much of your work may be in a specific area or on a particular facet of the project, what you work on will often rely on what others are doing and vice-versa. Further, you are encouraged to solicit help and advice from your group-mates and provide supportive but discriminating feedback on each other’s work. Finally, sub-groups may often be necessary to ensure that work is done in a timely manner and to ensure quality of choices and decisions.

The roles include, but are not limited to, the following:

* **Project Manager/Group Leader** - responsible for group and task management and making sure that all group project deadlines are met
* **Visual Presentation Lead** - responsible for creation of visual materials to support proposals, summaries, presentations, as well as the look and feel of the application
* **Research Lead** - responsible for leading and/or supporting research efforts regarding API information and other required resources for the project
* **Programming Lead** - responsible for organizing project code, workspace, and general architectural approach
* **Other (Testing, Debugging, Additional Programming, Additional Visual Design, Specific API’s, etc.)**

All group members will be responsible for the appropriate content within proposals, application code and text, and summaries:

* Well constructed reasoning for approaches taken in the project
* Proper spelling, grammar, calculations, graphical representation

You may communicate with each other via Sakai private group forum, or private messages.  Feel free to exchange email out of Sakai if desired, but you must exchange this on your own, as the instructor cannot share student contact information.

Progress Updates

Each group is required to submit a progress update to the instructor each week.  This will ensure that the group is on the right pace to complete the project on time and successfully.  It will be imperative that you get feedback often and quickly from the instructor, to make sure your work is on the right track.

Each week, you will be required to answer the following questions and submit via Sakai to the instructor:

* What is the current status or amount of progress made so far?
* What information or knowledge do you need, or what questions do you need answered?
* Are you currently having any group work problems?

Member Contributions

It is desired that all group members contribute equally and fully.  However, since it may be possible that a fellow group member is not keeping up with the rest of the group, a number of steps are suggested to try to maintain a cohesive proposal.

If this happens, do not delay or hesitate to proceed with the following resolutoin steps:

* First, try to assist the group member and see if you can provide any insight or knowledge.
* Encourage them to contact the instructor if they are lost or have a significant amount of trouble.
* If the group member cannot sufficiently take on the role assigned, obtain consensus with the rest of the group to see if they can take on another role instead.
* If the group member is not willing or able to complete work within their role, contact the instructor.

Grading

The following describes the general grading scheme.  A full rubric will follow shortly.

The individual assessment will be graded on a per-group-member basis only, and not be a shared grade component:

* Individual Assessment (12% of project)

The shared components of the group project will be broken down into the following:

* Web Application Content (75% of project)
* Presentation (13% of project)

Within each shared component, it will be graded for:

* 75% of each component project grade will be for your individual effort in the group.  Each group member will receive an individual grade here.
* 25% of the grade will represent the cohesiveness of the project within the group, and overall functionality brought together in the project.  Each group member will receive the same grade here.

**Supporting Materials**

* https://sakai.rutgers.edu/library/image/sakai/pdf.gif [advancedwebdesigngroupproject2013-9.pdf](https://sakai.rutgers.edu/access/content/attachment/4448be91-5475-44e3-b238-ff418df21e5f/Assignments%202/1907ffce-073e-483b-bb39-e8b51821899e/advancedwebdesigngroupproject2013-9.pdf" \t "_blank) (157 KB)