CS 3194 Design Project

Due on or before April 28, 2008, 4:30 p.m.

January 28, 2008

This problem is to be done on a group basis following the Trinity University Academic Integrity Policy. or Trinity University Honor Code.

Academic Integrity and Honor Code

All students are covered by a policy that prohibits dishonesty in academic work. The Academic Integrity Policy (AIP) covers all students who entered Trinity before the Fall of 2004. The Academic Honor Code covers all those who entered the Fall of 2004 or later. The Integrity Policy and the Code share many features: each asserts that the academic community is based on honesty and trust; each contains the same violations; each provides for a procedure to determine if a violation has occurred and what the punishment will be; each provides for an appeal process. The main difference is that the faculty implements the AIP while the Honor Code is implemented by the Academic Honor Council. Under the Academic Integrity Policy, the faculty member determines whether a violation has occurred as well as the punishment for the violation (if any) within certain guidelines. Under the Honor Code, a faculty member will (or a student may) report an alleged violation to the Academic Honor Council. It is the task of the Council to investigate, adjudicate, and assign a punishment within certain guidelines if a violation has been verified. Students who are under the Honor Code are required to pledge all written work that is submitted for a grade: On my honor, I have neither given nor received any unauthorized assistance on this work and heir signature. The pledge may be abbreviated pledged with a signature.

Laboratory problems should be submitted electronically (e-mail to cs3194@ariel.cs.trinity.edu) on or before the due date and should contain a problem write-up, source code to any programs and data sets used in solving the problem. The submitted files should be ASCII text files having Unix end-of-line characters (please convert all Windows and Mac text files to Unix format–I have found that Emacs or the Stone Text Tool seem to do a reasonable job of such conversions). If several files need to be submitted, put them in a directory having name *your-last-name-problem-set-number* and create a tar archive of this file system and attach it to your e-mail problem submission.

Introduction

The Junior Design Problem involves a re-design of the CS Department web site:
http://www.cs.trinity.edu
The problem will consist of at least the following phases:

1. Requirements Assessment (Analysis)
2. Design
3. Software Selection
4. Prototype Implementation
5. Testing
6. Documentation

Requirements Assessment (Analysis)

The CS web site serves at least the following purposes:

- Information for Prospective Students
- Information for Current Students
- Information for Majors
- Information for Faculty
- Information for Research Projects or Research Centers
- ...

Requirements Assessment will involve interviewing computer science faculty, students, and staff and other means together with analysis to determine the problem requirements. At the end of this phase a Requirements document must be produced. Following are some general requirements.

- All web pages should have a common look and feel and should be dynamically generated from a common template so that style changes can be easily propogated throughout the entire site.
- The web site should provide a methodology for content management which allows content owners (student groups, faculty, staff, ...) to manage (own, enter, update, and remove) content in a consistent manner without any special technical knowledge of html, programming, or other web technology.

The requirements document must be submitted to the instructor by February 18, 2008.

Design

Preliminary design documents should be submitted to the instructor by e-mail cs3194@ariel.cs.trinity.edu by March 10, 2008. You should include some design narrative and the following UML diagrams:

1. use-case
2. analysis
3. class

and sample page layout for each page.

You should give some attention to user interface design. For example, it may be appropriate that pages contain a menue which provides access to all facits of the site and allows easy navigation back to the top-level no matter how deeply one navigates into the site. There are a number of other human/computer interface design issues which need to be addressed in your design.

Software Selection

Software selection involves deciding on the software to be used to implement the design. For example, it may turn out to be appropriate to use a Wiki technology such as MediaWiki or MoinMoin Wiki to provide a common look and feel for the web site and allow easy content management by users without special technical knowledge.

Prototype Implementation

Use the selected software to prototype a new CS web site.

Testing

Test the prototype site in preparation for Junior project presentation on April 7, 2008.

Design Groups

The class should subdivide itself into appropriate groups to accomplish the various tasks above. A project manager must be identified.

Documentation

System documentation must be prepared and submitted by April 28, 2008.

Concluding Remarks

The history of CS software projects contains accounts of excellent designs of software having features and benefits which far exceed the system currently in use at Trinity. Students involved in such projects had hoped that their designs might actually replace the production system used at Trinity, but in the end, the student designs were never used for some reason or another.

The CS Department has a real need, for a variety of reasons, for a new web site. If your design meets the requirements you identify, your design and implementation will be used on a production basis.