**CIS 440 Challenge Assignment – Fall 2013**

You are required to complete one “challenge” from the list below. The purpose of this assignment is to learn how to do something new, so don’t choose something that you’ve done before. If you have any ideas for an alternative challenge, contact me with your suggestions.

**Challenge List**

**Challenge 1:**

Set up a web application in “the cloud” using Amazon Web Services. Complete the EC2 for Poets tutorial (<http://ec2.forpoets.org/>) and add some feeds to the river2 app. Submit the URL for the river2 app, and leave the site running for one week or until it is graded.

[FYI: This costs a few bucks. I may be able to get you free access.]

**Challenge 2:**

Use Windows Azure and MS Visual Studio to create a web application with a SQL server backend that allows users to log in with their choice of Facebook, Yahoo, or Google. Follow the tutorial here: <http://www.windowsazure.com/en-us/develop/net/tutorials/web-site-with-sql-database/> (“Deploy a Secure ASP.NET MVC app with Membership, OAuth, and SQL Database to a Windows Azure Web Site”)

This will require setting up a free Windows Azure account.

Submit the URL and leave the site running for one week or until it is graded.

**Challenge 3:**

Launch a new Drupal website through getpantheon.org, Windows Azure, appfog, or some other service. Build a functioning website that serves a purpose. Install a few different modules. Your website must do at least two of the following:

* Allow login via LinkedIn, Windows Live, Facebook, Google, or some other identity provider.
* Have a calendar and allow users or admins to add events to it.
* Have a members-only area that is visible only to users who are logged in.
* Have a shopping cart that integrates with PayPal.

Submit the URL and any necessary instructions for me to log in and take a look at the site. Leave it running at least a week or until graded.

**Challenge 4:**

Develop a business intelligence dashboard with Tableau.

1. Install the 2-week trial of Tableau Desktop (<http://www.tableausoftware.com/>)
2. Do the “getting started” tutorial: (<http://www.tableausoftware.com/learn/training>)
3. Do any other tutorials that interest you (optional)
4. Choose a data visualization that you like from one of Tableau’s examples:  
   <http://www.tableausoftware.com/learn/gallery>  
   <http://www.tableausoftware.com/public/community/viz-of-the-day>  
   <http://www.tableausoftware.com/public/gallery>
5. Reverse engineer or replicate the example (hint: in most of the downloads, the tabs at the bottom of the workbook are “dashboards” instead of “worksheets”; in order to see the data itself you need to create new worksheets, then ultimately assemble them into a dashboard). Your replication doesn’t need to be exactly the same as the original, feel free to show me your creativity.

Submit your dashboard to me in the form of a Tableau file, PDF, or by putting it up on a web page (you submit the URL).

**Challenge 5:**

Develop a simple, working mobile app for Android, Apple, Windows, or Blackberry smartphones. It doesn’t have to be too sophisticated, but should be more than a simple “hello world” program. For this challenge, I haven’t identified a good tutorial, so you have some freedom to choose. Feel free to work through a step-by-step tutorial or go it alone if you prefer. Here are some resources that might help you get started:

* 75+ Mobile App Development Tutorials (via Tripwire Magazine): <http://www.tripwiremagazine.com/2013/04/app-development-tutorials.html>
* Mobile App Training Videos from Lynda.com (some very complete tutorials, for example, the “note-taking app” tutorials look great, but you have to pay $25 for access to the site): <http://www.lynda.com/Mobile-training-tutorials/55-0.html>
* Processing & Android tutorial (from 2010): <http://www.creativeapplications.net/android/mobile-app-development-processing-android-tutorial/>

Write a brief (1-2 page) report about what kind of mobile app you produced, and what tools you used to do it. Include screenshots if necessary. If you used a tutorial from the web, give me the URL and any feedback about the quality of the tutorial.

**Design your own Challenge:**

If there’s some other way you’d like to challenge yourself with new skills, let me know and we can talk about it. One option is to take an online training course or MOOC in a new technology. I have approved the following projects at the request of individual students:

1. Complete the “Introduction to Computer Science” course on Udacity; this is a course that teaches Python programming (along with CS theory) and you will complete a web crawler program during the course. Demonstrate to me that you have completed the course, either by bringing proof from Udacity or by showing me your complete program, for the grade.