INFM 603 Final Exam
Spring 2015

Start at: 6:00 PM Thursday May 14, 2015 (you may read only this page before 6:00 PM)
Due at: 8:00 PM Thursday May 14, 2015 (i.e., exactly 2 hours later)

- At 6:00 PM, after reading these instructions, but before looking at the questions on the next page, send the professor an email at oard@umd.edu to say you are starting the exam.
- You must complete this exam during the specified 2 hour period, which corresponds to the first two hours of our normal class time.
- Although you may take this exam anywhere you wish, this is the equivalent of an in-class exam, so you may not do other things during that two hour period.
- You may use any resources that existed before the start time of this exam.
- You may not communicate in any way with any person other than the professor between the time you start the exam and the time you submit your results (note: anyone means anyone, regardless of what you talk with them about or whether they know anything about the course content).
- You may not post content to the Internet during the exam.
- You can reach the professor during the exam by email at oard@umd.edu or by phone at the number that was sent to you by email before the exam. If you send email and want a phone call back, send your phone number in the email.
- The exam consists of **three** pages, including these instructions.
- A total of 35 points are available for this exam.
- Send your completed exam by email to oard@umd.edu with subject line FINAL EXAM

At 6:00 PM (and not before!) send the professor an email at oard@umd.edu to say you are starting and then scroll down to page 2 to start the exam

1. (15 points) Answer **one** of the following questions by creating a Web page that includes:

    a. (15 points) Create a Web page that includes a JavaScript program that reads a user-entered price for a restaurant meal and prints the price of the meal along with three suggested tip amounts (in dollars and cents) for tips of 10%, 15% and 20%. Your program must use a loop to compute and display the suggested tip amounts.

    b. (15 points) Create a Web page that includes a modified version of the JavaScript program at http://www.umiacs.umd.edu/~oard/teaching/603/spring15/slides/3/selector.htm that works as it does now for people age 64 and under, but that directs people age 62 and over who select Web Search Engine to the Onion story on a new search engine for older adults (http://www.theonion.com/article/google-launches-the-google-for-older-adults-5850). Note that if Web Directory is selected, the program should continue to work as it does now for all users.

2. (20 points) Using a word processor (e.g., Microsoft Word) or a text editor, provide short (a few sentences; no more than half a page) answers for **two** of the following four questions.

    a. (10 points) State three <u>different</u> advantages of using a Web content management system such as Drupal when compared to the alternative of hand-coding HTML. Then state two <u>different</u> disadvantages. Only your first three advantages and your first two disadvantages will be graded, so be careful to ensure that the issues you raise are truly different.

    b. (10 points) Briefly explain the key ideas that characterize "agile methods" for developing systems. Limit your answer to this part of the question to just a few sentences. Then describe a project for which agile methods would **not** be appropriate and briefly describe some other method that you believe would be more appropriate in that case. To receive credit for your answer, agile methods must be very clearly inappropriate for the example you have selected, and the reasons for that must be clearly articulated.

    c. (10 points) Name three <u>different</u> ways that smartphone apps can determine your location and then describe two <u>different</u> ways in which a smartphone app might use knowledge of your location to provide you with a better user experience than would otherwise be possible. Only your first three ways of determining location and your first two ways of using location information to improve the user experience will be graded, so be careful to ensure that what you write in each case is truly different from what you have already written.

    d. (10 points) Sketch the design of a database for keeping track of tablet computers that are temporarily checked out to students in an academic library. The rules do not allow any student to have more than one tablet checked out at a time, although your database does not need to enforce that rule. For each student, you should keep track of their name. For each tablet computer, you should keep track of its model (e.g., iPad mini 2). And for each checked out computer you should know which student has checked it out (even if there is more than one tablet of the same type or more than one student with the same name. You may use an Entity-Relationship (ER) diagram, or you may actually draw the tables. For each table, you must identify the primary key and any foreign keys, but you do not need to create any queries, and the use of SQL is not required (the use of SQL is allowed, but if you do use SQL it must be correct).

Type by hand (no cut and paste) at the bottom of your file the University of Maryland honor pledge: "I pledge on my honor that I have not given or received any unauthorized assistance on this examination."

Send your program (as an HTML file) and your word processor document (as Word, PDF, or text) to oard@umd.edu with subject line FINAL EXAM. Do not post your HTML file on the Internet! Email will be acknowledged immediately – check with me if you don't get an acknowledgment within 20 minutes!