# CS 435 - Homework 6

## Deadline

Due by 11:59 pm on Thursday, April 3, 2014

## How to submit

Submit your files for this homework using `~st10/435submit` on nrs-labs, with a homework number of `6`

## Purpose

To think about several things related to software project risks.

## Important notes

- Note that some of your submissions for this assignment may be posted to the course Moodle site.
- Create a file named `435hw6.txt` or `435hw6.pdf` (your choice) that starts with your name. Then give the problem number and your answer(s) for each of the following problems.

## Problem 1

Consider the list of Boehm's top 10 software risks, followed by risk-management techniques for each, posted along with this homework handout.

Consider a 4-person student team working on a semester project. Select one of these which you think could be a major risk for such a project, and describe why you think it could be a major risk for such a project. Then consider the risk-management techniques suggested for your selection, and select one of these which you believe could indeed help manage that risk, and explain why you think it could help.

Then consider a 10-person team, say a start-up, working on a computer game. Select a *different* one of these which you think could be a major risk for such a project, and describe why you think it could be a major risk for such a project. Then consider the risk-management techniques suggested for your selection, and select one of these which you believe could indeed help manage that risk, and explain why you think it could help.

## Problem 2

And now, for another kind of risk... You will find an overview by Nancy Leveson of an infamous series of accidents involving a computer-controlled radiation therapy machine, the Therac-25, linked from the course Moodle site. This article is quite long, and please note that I found some of it to be disturbing reading (especially descriptions of the accidents and their aftermath in Section 3), and some of it is also quite technical. For our purposes, read Section 1, p. 1, and Section 4, from pp. 44 - 49. Section 4 summarizes lessons that the author felt could be learned from this series of accidents.

Consider: which of these lessons would you want to most remember with regard to good software engineering practice? Select at least three that you believe are especially important, and describe them, along with why you feel they are important.

## Problem 3

A CS graduate -- as well as a software engineer -- ought to be able to use a resource such as the ACM Digital library to look up articles on computing topics. For this problem, you are required to use the HSU Library's subscription to the ACM Digital Library to do some additional reading relating to risk management.

Here is one of probably-several ways to reach the HSU Library's link to the ACM Digital Library -- you may find a more straightforward way. But this does work:

- Go to `http://library.humboldt.edu` .
- In the left-hand sidebar, click on "Articles & Databases".
- If the displayed tab is not "Databases by Subject", click on that tab so it becomes so.
- In this "Databases by Subject" displayed tab, click on the "Computer Science" link in the left-hand column.
- You should now be at the "Computer Science Research Guide". Click on the "Finding Articles" tab.
- On the "Finding Articles" displayed tab, you should see a section near the top left called "Databases: Highly Recommended". And the first link in this section should be a link to the "ACM Digital Library".
  - Follow this link -- on campus, it should lead right to the opening page for the ACM Digital Library. Off campus, you should be asked to enter your HSU username and password, and then you should be taken to its opening page.
  - You will see a variety of links here, in addition to a Search textfield and button on the top left.

As noted on the ACM Digital Library's home page, this includes the "Full text of every article ever published by ACM and bibliographic citations from major publishers in computing." And these articles include those from ACM journals, magazines, conference proceedings, and special interest groups as well as special collections that include links to complete e-books.

- Go the HSU Library's link to the ACM Digital Library, and find an article of your choice on risk management.
  - (Searching for "risk management" does indeed lead to an interesting variety of options. You are also welcome to add additional search terms to focus this search further if you would like.)
- Browse as you would like -- but once you have found an article you'd like to read at least some of, BEFORE you follow the link, take a screen shot of your ACM Digital Library window at this point.
  - (This can be a screen-shot of that window, or a cell-phone photo of that window, etc. Make sure it can be saved as a .jpg, .gif, or .png, whichever screen-shot means you use -- and name it `acm-dl-img` followed by the appropriate suffix.)
  - Paste your selected article's title, author, date, and publication as part of your Problem 3 response,

and then download your selected article's PDF.

- Read at least enough of that selected article to give at least 3 things from that article -- related to risk management! -- that interested you, and also include these in your Problem 3 response. I hope to post your responses to Problem 3 to the course Moodle site, and perhaps have you peruse everyone's contributions on a future homework assignment (I hope...!).

Submit your resulting file `435hw6.txt` or `435hw6.pdf` along with Problem 3's `acm-dl-img.*` screenshot image file.