Assignment #1 for Simulation (CAP 4800)
Due on May 23, 2013 in class

This assignment covers material from the first week of class lecture and reading.

Problem #1 (5 points)

If is very important that you know what the class website contains. So, for this first fun problem you are to go on a frog hunt. There are images of frogs hidden on one, or more, page(s) that I have created found somewhere on, or linked to, the class website. So, go find the frogs! Give the URL of each page that contains a frog. It is a good idea to be aware of the content of the pages that contain the frogs.

Problem #2 (5 points)

It is *absolutely critical* that you have a C programming environment that you are comfortable with. Download the program mm1.c from the Christensen tools page (http://www.csee.usf.edu/~christen/tools/toolpage.html). Compile it and run it. Take a screenshot of your compilation and execution. Submit the screenshot. Later in the semester you will need to use Visual C++ Express Edition 2008 as your development environment. So, if you do not yet have a C development environment on your PC I suggest this may be a good time to download and install VC++ Express 2008. You can find VC++ Express 2008 here: https://www.dreamspark.com/Products/product.aspx?productid=9. Why not VC++ Express 2010 or 2012? The CSIM software libraries that we will use later in the semester are compiled for VC++ Express 2008. If you are already committed to VC++ 2010 or 2012, see me and we will try to work-out a solution. Personally, I use command line for all of my C compilation – I do not use the IDE. You should use whatever you are comfortable with (that is, command line versus IDE).

Problem #3 (50 points)

You are to find a paper in an ACM or IEEE conference that uses simulation methods to evaluate an ICT component or system. The paper must have been published in the last 10 years. For the paper, answer the following questions:

a) What is the problem or question being addressed?
b) Very briefly, what is the solution to the problem?
c) Describe the simulation model developed and used
d) Identify and describe the response variables
e) Identify and describe the factors and factor levels
f) Describe how the simulation results were presented

Include the paper in your submission package. Give the full and correct citation (in IEEE-CS style) for the paper. As you probably already know, the USF library gives you access to IEEE Xplore and the ACM Digital Library. I suggest using scholar.google.com (and not plain google.com) for searching for academic/research papers. Note that the paper must not be about simulation, but rather must be about something else (say, a new design or method) that uses simulation as the tool to evaluate the design or method being proposed and developed in the paper.

Problem #4 (40 points)

Consider a generic PC. What are the response variables of interest to performance? What are the factors (and factor levels) of interest to performance? What are possible workloads of interest? Identify factors (and factor levels) related to both the system itself and the workload.