CSCI-471 Professional Communications

Research Paper Assignment
Topic Proposal Due October 31, 2014
Draft Due November 24, 2014
Your Review of Another Student’s Draft Due December 5, 2014
Final Due December 10, 2014

1 The Assignment
No one would deny that it is important for computer scientists and software engineers to keep up with developments in their fields. We all are faced with the constant challenge of learning and mastering new programming languages, new tools, new concepts, and new applications. At the same time, we can learn from the history of the discipline of computing. The main purpose of this assignment is to deepen your understanding of a specific area of computer science by critiquing several scholarly papers that helped to define our profession.

There are numerous sources for appropriate papers. Many scholarly papers are published in refereed, technical journals. Additionally, scholars often present their work at conferences, and then papers reflecting that work are later published as part of the conference proceedings. Sometimes collections of important scholarly papers are collected and published in book form. A good place to start looking is the Wallace Memorial Library, which has both bound volumes as well as online subscription services. The most useful for our purposes would be the digital archives sponsored by the ACM and IEEE. Many authors provide access to their own papers through websites, but note there is a distinction in this assignment between personal essays or unpublished documents and papers that have been reviewed prior to publication in appropriate technical sources. Most likely, papers that are simply posted on the Internet or found in trade publications will not be acceptable for this assignment. One other characteristic of the kind of paper that would be appropriate is that it contains references. Since the validity of any paper for this assignment will depend on several factors, and in order to make sure that students select appropriate papers, there will be a preliminary proposal procedure that must be followed.

2 General Requirements
Locate three scholarly papers devoted to a (the same) specific topic in computer science. Each paper should contain at least five pages of actual text. Do not count pages that contain references or pages that are primarily filled with figures or other non-textual information. Choose papers that have had some influence on developments in either computer science or software engineering. You are encouraged to choose papers on a topic of particular interest to you. The range of topics is nearly limitless. You could explore programming languages, software applications, aspects of hardware, techniques and paradigms, theoretical contributions, artificial intelligence, algorithm design, or some other computing-related topic. You may choose papers that are not recent if you are primarily interested in historical developments, or you may choose more recent papers that describe a promising new direction for computing.
2.1 The Proposal
Your first task is to locate three scholarly papers that you want to critique and that are also acceptable for this assignment. You must write and submit a formal proposal describing your intended papers and receive approval before beginning to write the critique. The proposal is due at the beginning of class on the date given at the top of this assignment. The proposal will be one page in length. Begin your proposal by giving a complete citation of each paper, using the citation method discussed in class. At a minimum, your citations should include each paper’s full title, the complete names of all authors (as listed on the paper), the identity of the source (a book title, journal title, conference proceedings, etc.), the volume and serial number (if applicable), and the date of publication for each paper. You must also include in your proposal the name of the person in this class who has agreed to review your draft, and the name of the person whose draft you will be reviewing. Be sure to check with these people ahead of time to be sure they agree to the reviews.

The goal of your proposal is to provide an argument designed to persuade your instructor to allow you to critique these papers. It is difficult to define exactly how you should pose the argument. You may want to make a connection between the content of the papers and a field that interests you, or a course you have taken, or a project you worked on. You may want to indicate that you have already read one of the papers and found some sections of it appealing or intriguing. Perhaps you are familiar with the author or the author is considered an authority in this field. Be sure to include a brief summary (1 paragraph) of each paper and make an argument as to why this paper either has historical significance in computer science or software engineering, or why it appears to be relevant to modern developments in one of these two fields.

When you submit your proposal, you must also submit a printed, clean (i.e., one that is not marked up or highlighted) hard-copy of each complete paper. Make sure all pages of the original papers are included. This also includes any references that were part of the original paper as well as all figures referred to in the paper. Make sure the pages are legible, and make sure pages are complete (i.e., portions of the text are not chopped off at the margins). Staple the pages of each paper together and place your proposal on top of the papers using a single paper clip in the upper left corner. Do not staple the proposal to the paper. Your proposal and the papers will be returned to you as either approved or denied. If your request is denied you will have to find other papers and write a new proposal, and you may have to repeat this process until your proposal is approved. Students who submit a critique for a non-approved paper will receive a zero for this assignment.

2.2 Critique Format
Your critique should start with a title page. The title page will include only the following information: the general topic of your three papers, your name, your course number and your section number, and the date of submission. Use page numbers, set reasonable margins, choose a reasonable font size and style, single-space your critique, and print it single-sided. Do not include complete citations for the papers in your draft or final version, since you have already provided this information in your proposal.
2.3 Critique Content

Your critique should be approximately six pages in length, single-sided, single-spaced, 12-point font, with a 1 inch margin on both the left and right side of each page. Your critique should have a separate cover page, which is not included in the six-page length. While it’s permissible to include quotes from the original papers, you should strive to limit such quotes to short, telling phrases only, and do not include too many such quotes. There are two key elements to your critique. First, present a summary of the main points developed in each paper (one-page summary per paper). Unlike a book, a scholarly paper usually is an attempt to present a new idea, report on a research project, make sense of data collected, propose a new theory, or something similar. Sometimes a paper is a report on a “work in progress”. Your summary should convey the key points made in each paper and the justification given for them. If examples are given, you may want to present parts of them. Provide evidence from the papers that directly supports an advance in either computer science or software engineering. Be sure to provide citations (giving page numbers from the original paper) for key points, direct quotations, etc.

Some papers are longer than others. Condensing several extremely long papers into six pages may be difficult. In such cases, consider offering a quick overview of each paper and then, for each paper, go into a more detailed review of one or more critical sections. Regardless of whether the papers you are critiquing are short or long, what you choose to emphasize in your critique reveals the level of your understanding of the contents of each paper.

The second key element of your critique should be a brief discussion (one-page discussion per paper) on how well written each paper is, and the relative merit of the intellectual or scientific contribution. This should be placed after the summary, rather than weaving it throughout the critique. Does the paper seem complete? Is its hypothesis well-stated and supported by evidence? Does the author use sound logical reasoning? When necessary, does the paper provide adequate background (a literature review)? Do references and other elements suggest to you that the authors knew what they were talking about? What were those elements and how did that come across in the paper? Do you believe the intended audience is well served by this paper? In summary, does the paper deliver a clear message and convince you of its accuracy and scientific soundness? Do not think of the preceding questions as a list merely requiring a “yes” or “no” answer. Rather, provide some sort of explanation or evidence to support your answers. In your critique, you should also try to determine the relative “importance” of the paper. If the paper is older, place it in historical context; if the paper is more recent, estimate how likely it is that this paper will influence future research in this area.

3 Draft

Each person should plan to produce two versions of their critique. The first version is considered a draft and will be reviewed by another student in this class. Make sure you provide your reviewer with a copy of the original papers as well as your draft. This may place an additional burden on your reviewer as he or she may be unfamiliar with the subject matter, so be sure to give him or her adequate time to read the articles and comment on your critique of it.
The student who is reviewing your draft should look at the “usual” matters (format, general appearance, grammar, etc.) and will also comment on how complete and accurate the critique is. The reviewer should let you know if they believe that key points have been overlooked or if the critique is incomplete.

The student who is reviewing the draft is expected to write their comments, concerns, and suggestions directly on your draft. In addition, they will write a formal peer-review (one to two pages in length) and return both the annotated draft and their review of the draft to you on the date given at the top of this assignment. In addition, reviewers are encouraged to discuss their criticism and suggestions directly with the draft author.

4 What to Submit
Submit an electronic version of your review of another student’s draft to the MyCourses dropbox for this assignment on or before 11:59pm on the date given at the top of this assignment for the draft review. In addition, print out a hard copy of your review and give it to the student whose draft you are reviewing. For the final research paper critique, you do not need to print a hard copy, just submit an electronic version of your final review to the MyCourses dropbox for this assignment on or before 11:59pm on the date given at the top of this assignment for the final review.

5 Grading
Your grade will be based both on your adherence to the process and on your submitted documents. The process consists primarily of your preparation for and participation in the peer review activity, as well as your reaction to suggestions made by your reviewer. Your final research paper critique will be judged on grammatical style, logical organization, and on how well you are able to summarize and critique the original papers. Part of the grade assigned to your final material is based on how well you took advantage of your reviewer’s comments. The proposal is worth a maximum of 3 points toward your final grade for this course. Your final paper is worth a maximum of 12 points. In addition, your review of another student’s draft is worth 5 points toward your final grade for this course.