Term Project Requirements

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Issues to be Addressed

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- How should you proceed?
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Your Goals for the Term Project

1. Expand your depth of knowledge of the course material by doing some combination of library- and world-wide-web-based research on an <u>appropriate</u> topic related to the course.

2. Gain experience in preparing both an oral presentation, supported with slides, and a written paper (after first acquiring a depth of understanding on the topic).

3. Communicate effectively, both to your colleagues and to me, some insight that you have acquired into the chosen topic.

4. Benefit <u>not only</u> from your personal research, integration, and synthesis, but <u>also</u> from the presentations and papers produced by your colleagues.

5. Add to the body of material constituting the course.

6. Become a full partner of mine by contributing to the subject matter of the course.

Form

Number of Deliverables: either THREE, FOUR, or FIVE

1) ALL PROJECTS: An _In-Class Oral Presentation_ (with slides).

2) ALL PROJECTS: Both a hard-copy and a soft-copy of your slides.

3) ALL PROJECTS: A _Paper_ that describes what you have done/found/learned (to be submitted in both hard- and soft-copy).

4) ALL PROJECTS: Five <u>multiple-choice</u> questions, candidates for the final examination.

5) GROUP PROJECTS: A <u>Work-Breakdown Statement</u> that clearly delineates what contribution was made by each member of the group.

6) [PROGRAMMING PROJECTS ONLY: Thoroughly-Commented <u>Source Code</u>]

Stages of the Term Project (not necessarily in order)

1. Form your GROUP.

2. Select tour TOPIC.

3. Acquire/Assemble INFORMATION on your topic.

4. Read and discuss the material to achieve thorough understanding.

5. THINK, ANALYZE, <u>SELECT</u>, and ORGANIZE.

6. if a programming project: DESIGN, IMPLEMENT, and thoroughly TEST your program.

7. WRITE up your paper, and DESIGN your presentation.

8. Submit to the instructor both hard- and soft-copies, both of your slides and of your paper.

9. Present to the class the highlights of what you learned.

Criteria for Selection of Topic

1. Relevance to Subject Matter of Course

   — NOTE: My approval is required IN ADVANCE for any topic not on the pre-approved topic list.

2. Duplication of Topic NOT ALLOWED within a single course section

   — Instructions on sign-up to be given out in class: Sign-up will be EITHER via a posted list of topics OR via E-mail)

Contents of the Term Paper (in order)

1. REQUIRED: A separate <u>Title Page</u> (*one* page only)

2. Optional: An <u>Abstract or Summary</u> (one page maximum)

3. REQUIRED: <u>Table of Contents</u> (page numbering, if present, in Roman numerals)

4. REQUIRED: Main Body of <u>Text</u>:   all pages numbered with Arabic numerals, starting with Page Number <u>1</u> at the very beginning of the text

5. Optional: <u>Figures</u> and <u>Tables</u> (authors' judgment)

6. REQUIRED: <u>Bibliography</u>

7. Optional: <u>Index</u>

8. Optional: <u>Glossary</u>

9. Optional: <u>Appendices</u>

Format Requirements for the Term Paper

1. Single-Spacing; Size of Type Font (S): $12\text{-pt} \geq S \geq 10\text{-pt}$

2. Length of Document (L): $L \leq 12$ pages letter-sized (8-1/2" x 11")

   NOTE that 12 pages is the <u>upper</u> limit on document length. I do <u>NOT</u> expect or require that you make your paper 12 pages long. Feel free to make it shorter.

   a) Document Length Limitation refers to main body of text ONLY.

   b) Document Length Limitation is critical.

   c) Document Length Limitation INCLUDES Figures.

   d) HOWEVER, Document Length Limitation EXCLUDES:

      1) Title page.

      2) Table of Contents.

      3) Abstract/Summary.

      4) Bibliography.

      5) Index and Glossary.

      6) Appendices.

Format Requirements for the Term Paper (continued)

3. Anything you feel you MUST include, but does not fit the *Document Length Limitation,* you may append to the document in the form of an Appendix.

NOTE, however, that:

(i) the contents of appendices do NOT count towards your grade, AND

(ii) I am NOT committed to reading anything other than those portions of your paper that are required.

Further Details on <u>Requirements</u> for the Term Paper

1. <u>*Cover Page*</u> must contain:

    a) descriptive title of the paper

    b) course number AND section number, and course name
        (e.g., *CS-960-3: Computer Ontogeny*)

    c) semester (e.g., *Fall 1776*)

    d) names of all group members/participants

NOTE that it is <u>extremely</u> unprofessional to miss-spell a participant's name. Be sure to get everybody to check his/her own name.

NOTE that I have no difficulty remembering my own name. Therefore, my name need not appear on your cover page.

Further Details on <u>Requirements</u> for the Term Paper (continued)

2. <u>Table of Contents</u>:

    a) should show thorough, logical organization of the content of your paper.

    b) must include a page number for each entry.

Further Details on <u>Requirements</u> for the Term Paper (continued)

3. <u>Figures and Tables</u>:

   a) NOT required; Provided them <u>only</u> if they improve the quality of your exposition or if they add clarity to your presentation..

   b) If you do include figures and tables, place them at the <u>logically most appropriate</u> position in the body of the paper.

   c) Black-and-White only, NO figures in color (exception: color photographs, or figures pasted into your document from an external source.).

   d) Figures and Tables should all be numbered (Figure 1, Figure 2, Figure 3,…   Table 1, Table 2, Table 3,…)

4. <u>Pages</u> in main body of the text must be *numbered* consecutively (Arabic numbers).

Further Details on Requirements
for Term Paper (continued)

5. A brief *Introduction*: must appear at the beginning of the text.

6. Included in the Introduction: a declaration of purpose: What are you trying to accomplish?

7. Careful and thorough organization of your material.

8. Appropriate use of *section headers*, of *spacing*, and of *paragraph formatting* to clarify the organization of the paper to the reader. Section Headers should conform to the headings in your Table of Contents.

9. *Correctness of spelling and grammar*:   absolute perfection is not necessary, but errors should be <u>neither</u> numerous <u>nor</u> egregious.

10. *Summary* or *statement of conclusion* is required at the end: Don't just stop.

Further Details on Requirements
for Term Paper (continued)

10. HARDCOPY <u>and</u> SOFTCOPY of paper are <u>both</u> to be submitted.

11. Electronic submission <u>must</u> incorporate the entire document in the form of a SINGLE file that contains everything:
    a) Title Page
    b) Table of Contents
    c) Text and Figures
    d) Index (if present)
    e) Bibliography
    f) etc.

12. File Type: EITHER *.doc* OR *.txt* OR *.rtf* OR *.pdf* OR *.htm*

13. Hardcopy <u>*stapled*</u> (not clipped) in upper left corner.

14. Binders or covers NOT allowed.

Bibliography: PURPOSE

1. Your acknowledgement of your sources of information: intellectual honesty

2. Attribution of your sources of information: scholarship

3. Recognition of people or organizations who made intellectual contributions to the scholarly/scientific/engineering/technological body of knowledge

4. Information provided to the reader so that he/she can pursue broader or deeper knowledge of the subject.

Bibliography: Conceptual Content of a Citation

1. Name of the author/authors (person or organization): <u>FULL</u> name

2. Title of the work (book, book chapter, or article)

3. Directions on where or how the reader can access the information

    SOMETIMES ALSO:

4. A "handle" or a means by which the citation can be addressed briefly from someplace within the body of your paper.

    <u>Types of Handles</u>:

    a) Automatic:The "handle" is composed of the authors' name/names and the year of publication, possibly supplemented by a distinguishing alphabetic character.

      E.g.:   (Jones & Smith, 1987)

    a) Numbers: A reference number is assigned to each reference cited.
    b) Labels: An alphanumeric label is composed for each reference.

      E.g.:   [AN91]   Anton, H.(1991).   *Elementary Linear Algebra. Sixth Ed.* New York: John Wiley & Sons.

Bibliography: THREE Kinds of Entries

1. Article published in a periodical (usually, a referred journal)

2. Book

3. World-Wide-Web-based publication

Bibliography: Detailed Instructions

1. Don't cite anything in your bibliography unless you actually read it.

2. BEGINNING of a bibliographic entry: Last names, and either initials or first names of all authors (full spelling of first names is preferred).

3. IMMEDIATELY FOLLOWING authors' names: Year of publication (in parentheses).

4. IMMEDIATELY FOLLOWING year of publication: Title of the work.

5. Additional details for a <u>journal article</u>:
   a) quotation marks enclosing the title.
   b) journal name set in italics.
   c) volume number
   d) specification of inclusive page numbers

6. Additional details for a <u>book</u>:
   a) title set in italics
   b) city and name of publisher
   c) International Standard Book Number (ISBN) and Library of Congress card and catalog numbers, and Dewey Decimal call number: very useful, but OPTIONAL

Examples of Bibliographic Items

- **JOURNAL ARTICLE:**

  Abzug, C., Maeda, M., Peterson, B.W., & Wilson, V.J. (1974). "Cervical Branching of Lumbar Vestibulospinal Axons." *J. Physiol.,* **243,** 499-522.

- **BOOK:**

  Kahn, David (1967). *The Codebreakers: The Story of Secret Writing.* New York, NY: MacMillan Publishing Company. Z103.K28 1967; 63-16109; 001.54/36; ISBN 0-02-560460-0.

- **URL for Internet Source:**

  Koops, Bert-Jaap (2001). "Crypto Law Survey." URL: http://cwis.kub.nl/~frw/people/koops/lawsurvy.htm

- **Key points on bibliography (collation of references appearing after end of text):**
    1) Indent second and subsequent lines of each citation.
    2) Set off title field both from previous field (author) and from subsequent field.

Multiple Bibliographic Entries
Having COMMON Author(s) and Year

Add an alpha character after the year. For each set of authors and year, assign the latter 'a' to the first item, 'b' to the second, etc.:

- Abzug, Charles (1993a). *Totality of an Organization's Information Systems Security Program.* Information Resources Management College (National Defense University), internal document.

- Abzug, Charles (1993b). *Information Systems Hardware.* Information Resources Management College (National Defense University), internal document.

- Abzug, Charles (1993c). *Database Technologies.* Information Resources Management College (National Defense University), internal document.

- Abzug, Charles (1993d). *The National Computer Security Center's Evaluated Products List.* Information Resources Management College (National Defense University), internal document.

- Abzug, Charles (1993e). *Trusted Networks.* Information Resources Management College (National Defense University), internal document.

- Abzug, Charles (1993f). *Network Security - Background.* Information Resources Management College (National Defense University), internal document.

- Abzug, Charles (1993g). *Trusted Applications and Trusted Database Systems.* Information Resources Management College (National Defense University), internal document.

Citation of a Reference within the Text of the Paper

- Authors' last names, and year of publication, *e.g.:*

  1) One author: (Kahn, 1967), or (Abzug, 1993f)

  2) Two authors: (Smith & Jones, 2073)

  3) Three or more authors: (Abzug *et al.*, 1974)

Advice on Term <u>Paper</u>

1. Try to understand the differences between <u>spoken</u> English and <u>written</u> English: Spoken can be informal, while written is relatively formal. Informal phraseology possibly acceptable in oral presentation, but out of place in paper.

2. A term paper in Computer Science is in the category of a scientific or technical report. Wording must be <u>precise</u> and <u>quantitative</u>.

        EXAMPLE 1:   A processor should be described <u>not</u> as having a "huge number" of registers, but rather as containing "between 64 and 256".

3. Your term paper should <u>not</u> read like a newspaper article.
   a) The tone should be formal, not chatty.
   b) Quotations, if present, should be <u>sparse</u>.
   c) Every quotation <u>must</u> be referenced (e.g., Throckmorton, 1967, page 247).

Requirements for In-Class Presentation

1. Slides generated in PowerPoint (required).

2. Slides EXCLUSIVELY in black-and-white.
   - NO colored text.
   - NO colored or patterned backgrounds.
   - Permissible exception: colored photograph

3. NO visual or audio stunts or gimmicks.
   - NO slide transitions.
   - NO audio effects.
   - NO text lines making grand entry from right, left, top, or bottom.

4. First slide (i.e., the Title Slide) to include names of all perpetrators.

5. EVERY member of the project team <u>must</u> participate in the oral presentation.

6. Submit <u>both</u> HARDCOPY and SOFTCOPY.
   - hardcopy as "handouts", 6 slides per page
   - softcopy in EITHER *.ppt* OR *.pps* format

Guidelines on CONTENT of Presentation

1. Don't swallow the whole animal. Cut it up into bite-sized pieces, pick a few of those, and chew on them.

2. Talk _only_ about what you understand. DON'T try to snow your audience with a bunch of jargon, or with technical terms whose meaning you do not know.

3. Be very wary of manufacturers' claims; stick to <u>objective</u> facts

   GOOD: "Manufacturer claims that the processor has a performance measured at 48.2 Dhrystones."

   BETTER: "tested by _Consumers' Union_ and certified by them as having a performance of 7,182 GFLOPS"

   AWFUL: "outperforms competitor's products under all conditions." We know it's true – the manufacturer told us so, and he wouldn't lie, would he?)

4. Be selective! A significant portion of your grade is based upon the quality of your selectivity: Did you appropriately choose the important issues to discuss, AND also omit the trivial and less relevant?

Guidelines on Slides

1. Title of presentation and names of all perpetrators REQUIRED on first slide.

2. Font: large enough to be _CLEARLY_ readable from back of room, but not much larger. This allows maximum amount of material on one slide.

3. SIMPLE diagrams _only_. If you have a complex message to get across, don't try to squeeze it all onto one slide; divide it up among several slides.

4. Several simple diagrams much more communicative than one that is monstrously detailed.

5. Summary of slide restrictions:
   - Black-&-White slides ONLY (except for photographs).
   - Colored backgrounds, designs, watermarks: STRICTLY FORBIDDEN
   - Slide transitions, whether visual or audio: STRICTLY FORBIDDEN.
   - Animations: STRICTLY FORBIDDEN.
   - Musical backgrounds: STRICTLY FORBIDDEN.
   - All other stunts or gimmicks: STRICTLY FORBIDDEN.

Guidelines on Slides (continued)

6. Slide presentation, too:
   — an Introduction (at the beginning)
   — <u>either</u> a Summary <u>or</u> a Statement of Conclusions (at the end).

7. Slides should be consecutively numbered.

8. Maximum number of slides allowed: 1.5 x (Duration of presentation in minutes).
   NOTE: You may keep in reserve several additional slides to be used to answer questions that might arise during your talk. These should be separated from the slides that are part of your presentation, using an "END" slide as the separator.

9. The BOTTOM LINE (summary):
   a) Nothing is permitted that would distract the viewer from the content of your material.
   b) To impress your audience (including me):
      i. Do a great job of collecting and organizing information pertaining to your area of coverage.
      ii. Select judiciously what to <u>include</u> in your paper and presentation, and what to <u>leave out</u>.
      iii. Communicate well and effectively.

Guidelines on Slides (continued)

10. A summary table can be a very effective way to present data.

   EXAMPLE:

Table 2. POWER3's Low Execution Latencies

Instruction	Number of Cycles	
	32 bit	64 bit
Integer Multiply	3-4	3-9
Integer Divide	21	37
FP Multiply or Add	3-4	3-4
FP Multiply-Add	3-4	3-4
FP Divide	14-21	18-25
FP Square Root	14-23	22-31

11.   What is the "right" number of slides?

      ANSWER: There is no simple answer, but a <u>rough</u> guideline is one slide per minute of presentation time.

Preparing and Giving Your Presentation

1. Practice to stay within the allotted time.

2. Speak up; <u>don't</u> mumble, and <u>don't</u> swallow your words.

3. Face the audience, not the screen.

4. Use notes if you must, but <u>*don't*</u> read your presentation.

5. Try to project enthusiasm for your subject.

Common Substantive Errors Made by Students

1. _Cramming too much_ material into the presentation.

    – Grading based principally on QUALITY, <u>not</u> on quantity.

    – Quality boils down to:
    a) your development of insight into your subject matter.
    b) your communication of that insight to your audience in an effective manner.

    c) judicious selection of the most interesting/valuable points to present, together with rejection of the trivial or less important.

    NOTES regarding use of time:

    (1) Assume that you WILL have questions.

    (2) Do NOT fill up your complete time slot with material, as this will make you thus run over time when you get questions.

    (3) You may NOT fill up all the allotted time with your presentation, and thus preclude questions and discussion.

Common Substantive Errors Made by Students (continued)

2. _Attempting to BS their way through_ the presentation or the paper without really understanding what they are talking about.

   a) Remember that the purpose of this project is to serve as a learning vehicle:
      i.   for you.
      ii. for your fellow-students in the audience.
      iii. for the faculty, as well.

   b) If all you accomplished was to learn a bunch of buzzwords, then your effort was misguided.

   c) I _frequently_ ask questions during student presentations. You run a serious risk if you put in any material that you cannot adequately explain.

Common Substantive Errors Made by Students (continued)

3. <u>Using a disproportionate amount</u> of *time* in the oral presentation, and of *space* in the paper, to discuss matters of only marginal importance

    –   For example:

         In a paper on violins written for a course in the music department, it would be grossly improper to go on at great length about the <u>appearance</u> of the varnish.

         A BRIEF mention of the appearance MIGHT be in order in a music course.

         On the other hand, an <u>extensive</u> discussion of the effect of the varnish on the quality of the instrument's sound might be perfectly appropriate.

         If the paper were written in a course in the art department on the aesthetics of the design and construction of violins, then the effect on appearance would be very important, while the effect on sound would not.

Common Substantive Errors Made by Students (continued)

4. <u>*Improper use of acronyms*</u>:

    a) Some acronyms are pronounceable. Be careful, though, since Computer Science culture has standardized on the pronunciation of many. EXAMPLE: DRAM is pronounced <u>*Dee'-Ram*</u> (*"Dee"* rhymes with *"Pea"*, and *"Ram"* like a sheep of masculine persuasion). If you pronounce it <u>*dram*</u> (rhymes with <u>*cram*</u>), then you project non-professionalism.

    b) The first time an acronym is used, its expansion should be spelled out, and the acronym itself provided in parentheses, as: <u>S</u>ociety for the <u>E</u>limination of <u>E</u>xcess <u>A</u>cronyms (SEEA)

    Thereafter, the acronym can be used alone and unexpanded throughout the text with no further explanation.

    a) The above rule applies BOTH to a slide presentation AND to the textual paper. Each should separately demonstrate the acronym expansion.

    b) If you use more than three acronyms, then you should provide an alphabetic list in tabular format the end of your paper, with the expansion of each acronym.

Common Substantive Errors Made by Students (continued)

5. Failure to make use of simple techniques for organizing and presenting material:
   e.g., summary tables

Processor	Year	Transistor Count	Clock Rate (MHz)	Trace Width	Instruction Rate (per sec)	Register Width	Datapath Width
4004	1969	2,300				4-bit	4-bit
8008	1972	3,500		10μm	60,000	8-bit	8-bit
8086	1978	29,000	4.77/10	3μm	750,000	8-bit	16-bit
80286	1982	134,000	6/8/20	1.5-μm		16-bit	16-bit
80386	1985	275,000	16/20/25/33			32-bit	16/32-bit

Summary of Deliverables

1. An oral presentation in class of the highlights of your report.

2. A hardcopy printout of your presentation slides, in "handout" format, <u>6 slides per page</u>, fastened with a single staple in upper left-hand corner.

3. A PowerPoint file, in <u>either</u> *.ppt* or *.pps* format, E-mailed to me: (E-mail subject line: *CS-xyz-section#-Term Project*).

4. File Naming Convention for presentation slides:
   NameOfSystem-by-John-Smith-Jane-Jones-&-Elmer-Fudd-2002-Fall.*ppt*

(continued)

Summary of Deliverables

5. A hardcopy printout of your paper, together with all accessory components, on 8-1/2" x 11" paper, fastened with a single staple in upper left-hand corner.

6. A <u>*single file*</u> containing all sections of the paper (including title page, Table of Contents, main text and all figures, and bibliography). The file can be in <u>either</u> *.doc, .txt, .rtf, .pdf* or *.htm* format, E-mailed to me and enclosed in the same E-mail as your PowerPoint file).

7. File Naming Convention for paper (NO underscores or blank spaces within file name): NameOfSystem-by-John-Smith-Jane-Jones-&-Elmer-Fudd-2002-Fall.*fileExtension*

(continued)

Summary of Deliverables

8. Examination Questions of the MULTIPLE-CHOICE variety:
    a) Include the questions in the main body of your E-mail.
    b) Indicate after _each question_ what is its correct answer.

9. A Work-Breakdown Statement in hard-copy, detailing what contribution to the project was made by each participant, and signed by all participants.

Both your paper _and_ your slides
will be posted publicly on a
web page, so be sure
to produce something
of which you can be proud.

Issues Addressed

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- What does it consist of?
- How should you proceed?
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End