

Computer Architecture Laboratory

Library Research Project

Goals:

- to become familiar with computing research literature in both print and electronic format
- to enhance your skills in literature-based research
- to be introduced to bibliographic research information management software

Method:

1. The first class meeting will be held in the library with a reference librarian who will describe the types of materials and methods of access for both print and electronic information.
2. Undertake a research project to document the improvements in computing in the period from 1960 → 2000. Each student will be assigned or will choose one of the following five topics:
 - Performance (processing speed) versus time (fastest processing)
 - Performance (processing speed) versus time (microprocessors only)
 - Memory Density versus time (bytes on a chip)
 - Memory Cost versus time (\$/MB)
 - Communication speed versus time

The final will be a report with a well-documented graph showing the improvement (e.g. MFLOPS versus time, or MB/chip versus time, etc. Each data point on the graph must be accompanied by a full citation (in an appendix to the document) with appropriate comments. Students who “share” a topic may share references if they desire, however each person must present his/her own report.

3. If possible, the graph should be extrapolated to the year 2010, documenting the technology anticipated in the next decade.
4. The report should be presented as a paper or electronic document (.pdf file or .html file). The spreadsheet graphic should be imbedded in the document. The report should contain a brief introduction to the project, the graph itself, a citation list for all data points, and for each data point, a brief, one paragraph description of the technology used to achieve the performance must be given .
5. You are to keep your citations on a Bibliographic Research Information Manager. The one we will use is Biblioexpress. Biblioexpress is a freeware version of Biblioscape, a new but rather powerful Bibliographic Research Information Manager. You should download a copy of Biblioexpress from <http://www.biblioscape.com/biblioexpress.htm> (I have a copy of the full Biblioscape software if you would like to compare the two.) A copy of your citation database must be turned in with your report.
6. You are also asked to give a 5-10 minute presentation to the class (using presentation software such as Powerpoint) showing your performance curve and describing a few of the most significant technology advances which led to this performance increase.

Dates:

- The Lab ... Monday, September 11, 2000
- The presentations will be in class on Thursday, October 12, 2000.
- The paper will be due on the date of the First Hour Exam, Monday, October 16.