INDEPENDENT PROJECTS (Final Report Due: Monday May 17, 1999)
CALL FOR PROPOSALS (Preliminary Proposal Due: Monday February 10, 1999)

A) PURPOSE: To provide the student with opportunity to do a detailed study of one area of interest in distributed systems to complement what is covered in class lectures.

B) POLICIES:

- A report of not more than 20 double-spaced pages long will be required for each project.
- Each report will be presented in a professional manner.
- Each project will be duly demonstrated in a professional manner.

Depending on the type of project, an in-class oral presentation will be required. An example is a paper study. Programming projects will require demonstrations instead of oral presentations.

Generally, the topic for each student is expected to be unique since the projects are meant to be independent. However, there are cases where, depending on scope, two or more students may want to collaborate to work on a single project. Programming projects typically have this property. In such cases, the group of students must specify their desire to do so in their preliminary proposal (see item D below). In addition, each student must specify which part of the joint project will be their primary responsibility. As is the case of all projects the instructor reserves the right to approve/disapprove joint projects.

Joint Programming Projects are encouraged and recommended. The instructor will be willing to help divide the work among students who are interested in proposing joint projects, if they are having difficulty doing so.

C) SUGGESTED TOPICS:

- Distributed Programming Languages (eg. Argus).
- Security issues in Distributed Systems (eg. new authentication protocols, intrusion detection systems, transport, web transactions, etc.) and examples.
- Distributed Object Computing via CORBA
- Fault-Tolerant Broadcast Protocols: Concepts and Examples
- Distributed Deadlock Detection and Resolution Algorithms.
- Distributed Clock Synchronization Algorithms.
- Pretty Good Privacy (PGP) Installation, and Use in HPUX environment.
- Case studies on Distributed Systems (eg. Amoeba, Mach, Chorus, Locus, etc)
- Distributed Shared Memory.
- Installation and use of directory service implementations (eg. X.500 from UMich., QUIPU, etc, Whois++ from bunyip, ucdavis, etc) in HPUX environment.
• Integrated directory/name service implementation.
• Common Indexing Protocol for directory service.
• Open Trading Protocols for Internet Commerce
• Y2K Problems related to distributed systems.
• A Simple Distributed File Service (eg. multiclient/multiserver, or replicated server) based on transactions using SUN RPC and implement it on the SUN 3’s in the Communications and Networking Lab. Must be significantly different from class assignment.
• Secure distributed applications based on SUN RPC, OSF DCE, Microsoft RPC, or Java RMI.
• Java-based remote method invocation (RMI) implementation involving multiple servers
• Web-based distributed agent application.
• Location-transparent and trasaction-based distributed application with SUN RPC. Must be significantly different from class assignment.
• OTHER TOPICS OF YOUR CHOICE (must be approved).

D) PRELIMINARY PROPOSAL:

1. Each student must present an abstract of not more than 2 pages of the project of their choice. It must include at least the following:
   - Student Name
   - Title of Project
   - Goal of the Project
   - Brief discussion of how goal will be achieved

2. The abstract is due not later than Monday February 22, 1999.

3. Group projects are possible depending on scope. The instructor is solely responsible for approving such projects. Refer to Policies (item B above).

4. The abstract will be read and returned to you. If approved it must be included in the final report.

E) TENTATIVE GRADING POLICY FOR FINAL REPORT

| I.  | Heading (name, title, date) | 5% |
| II. | Organization (Intro., Table of Contents, page #s, Etc.) | 10% |
| III. | Clarity | 15% |
| IV. | Content | 60% |
| V.  | References | 10% |

F) TENTATIVE GRADING POLICY FOR ORAL PRESENTATION

| Appearance | 5% |
| Clarity (Intro, title, agenda, transparencies, etc.) | 25% |
| Knowledge and Handling of questions | 30% |
| Content | 40% |

NOTE: The Oral presentation will be worth 35% of your project grade.