CSE 480: Distributed and Real-Time Systems

30 January 1996

Homework 1: Interprocess Communication

Implement N processes which run on at least two different machines and communicate as follows:

- There is a token that is circulated around the ring of N processes.
- A process sends a message to all N-1 other processes when it possesses the token.
- The token is passed to the next process in the ring when the current process has finished sending a message.
- Each process should generate output to reflect that it has received (a set of) messages.

There should be two version of each process corresponding to the following two ways to generate messages:

1. Each process should generate the sequence of messages, e.g., (process name, counter) pairs and it should send each message when it is generated.
2. A process should read a string that the user inputs from his terminal.

Please design your experiment so that you can determine whether every process receives all the messages in the same order or not.

Please feel add any reasonable assumptions.

What to hand in:

1. A brief write up on the overall structure of your system, and the design and result of your experiment.
2. Email me the source of your program.
3. Demo the working of your program in the lab on the due date or shortly thereafter.

Due Date: 13 February 1996, 5:00 pm