MIIC1225 Operating Systems

MII MAHANAKORN Institute of Innovation

LAB Assignment Week #5

Topic: Interprocess communication using message queues and pipes in Linux

Name/ID of paticipant(s)

Instructions:

- You will be working in a group of two. Choosing your own team.
- You are allowed to discuss freely within your group. Avoiding seeking solution from other groups.
- Two computers are provided per group.
- Turn in the result by the end of class period.

Activity 1: IPC using message queues

- Run lab2_51.cpp and lab2_52.cpp (both at the same time). Use the first program (lab2_51) to send a string to the second program (lab2_52). Both programs will terminate if user press enter without typing any string as input for the first program.

Activity 2: IPC using unnamed pipes (ordinary pipes) and named pipes

- Run lab2_8.cpp as example for unnamed pipe, and lab2_9.cpp for named pipe. Observe the different between the implementation of unnamed pipe and named pipe.

Activity 3: Introduction to a classic problem of co-operating tasks that share the same resources

- Run lab5_0.cpp
- Observe the result. Explain what we would expect from the example, and what is the actual result that we observed.
- Learning how the program works.
- Discuss how the example produces the abnormal behavior and what could we do about it