System Architectures

Centralized Chat System

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1   Introduction

In this project, I developed a functional IRC system, with the required architecture. I tried to prevent and handle as many runtime errors could happen as I can. The system supports broadcast in a channel, send private message (PM) to a specific client. It also provides commands for client and server to utilise the system.

Both server and client work with multiplexed, nonblocking TCP socket connection.

2   Client

The client firstly takes server hostname from STDIN or from arguments, and then try to connect. After successfully connected, the program creates two separated threads: input handling thread, and network handling thread. Input thread send messages from keyboard to network thread through a pipe.
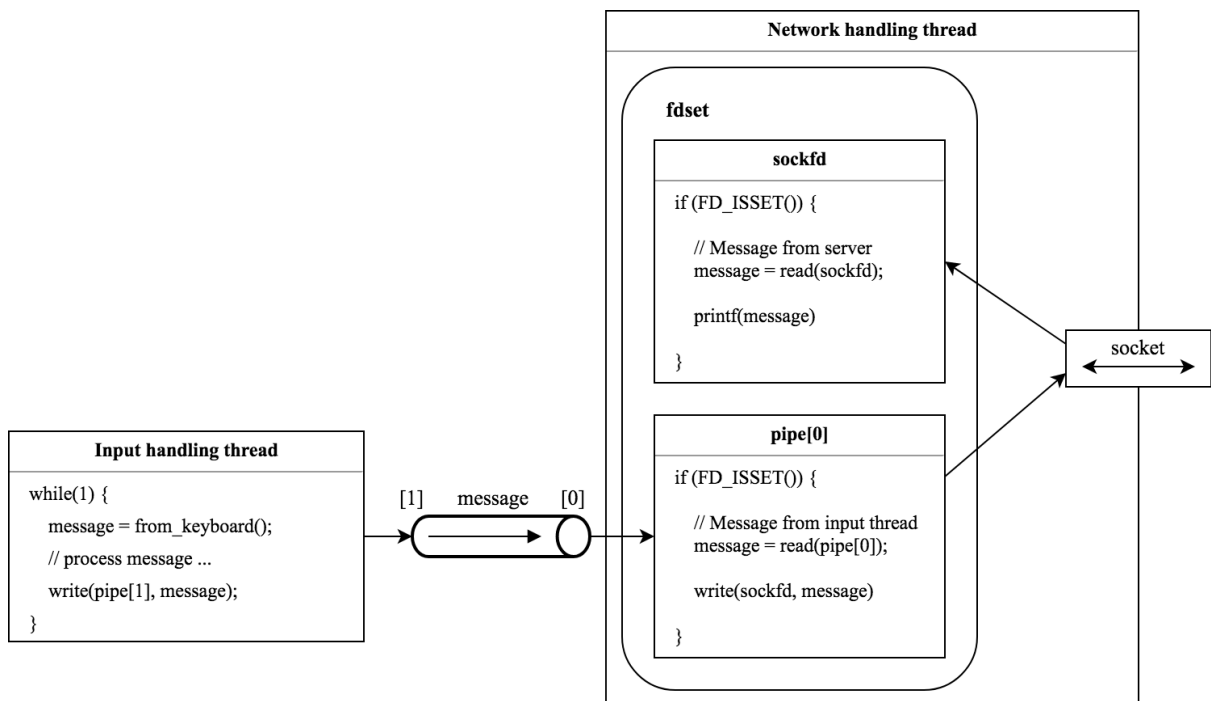
The pseudo design is as follows:

2.1   Input handling thread

Figure 1: Client's thread diagram