How to run the GPCA programs

This document intends to explain how to execute the prototype of GPCA infusion pump software (ver 2.1).

In [code] folder, there are two sub folders

1) gpca_state_machine_ver2.1

- The C source code that consists of (a) automatically generated code from the model (found in the [model] folder) (b) glue code to interface the generated code to the testing program, called GPCAMonitor below.

2) GPCAMonitor_ver2.1

- The debugging JAVA GUI program that interacts with the program “gpca_state_machine_ver2.1”.

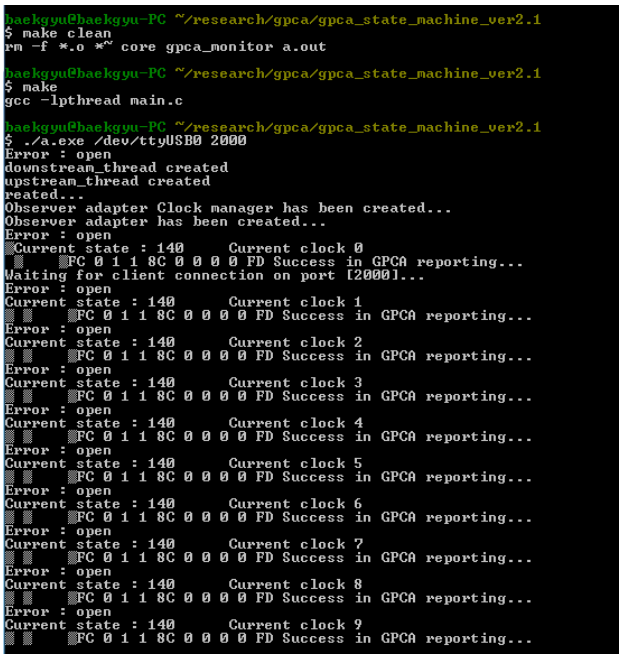
To run [gpca_state_machine_ver2.1], type the following commands in the Linux environment.

>>make clean

>>make

>>make run

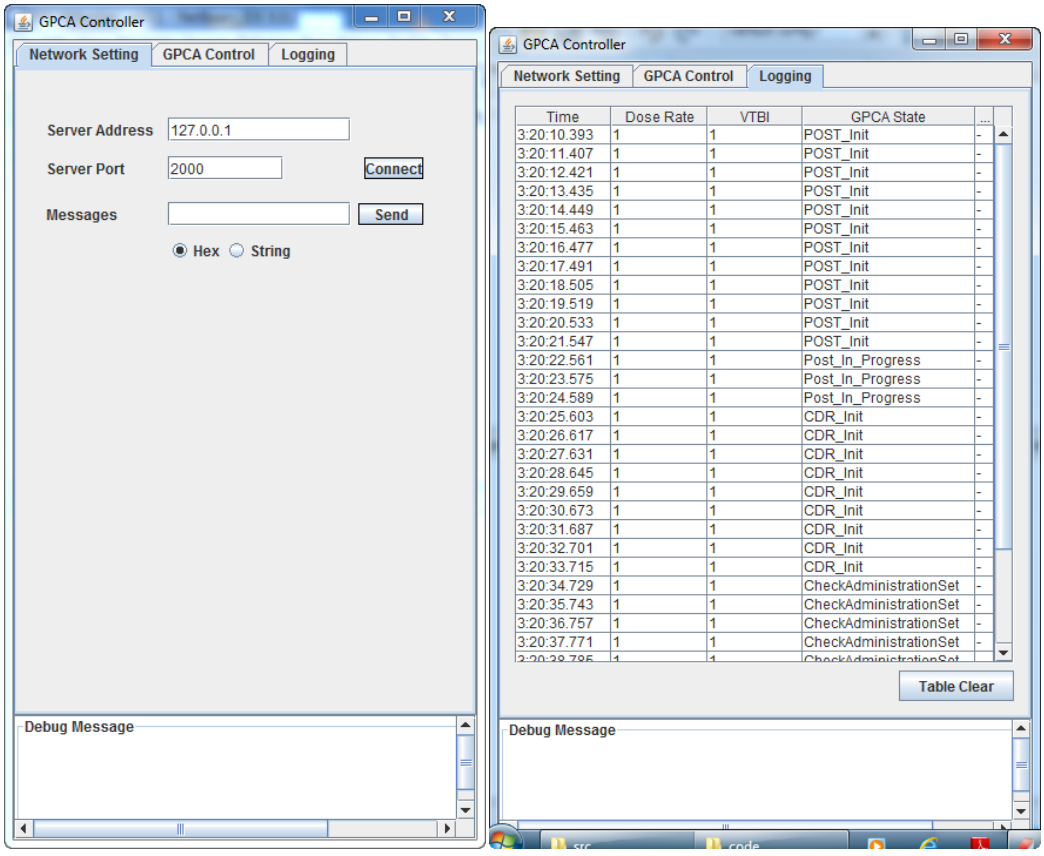
Then, [gpca_state_machine_ver2.1] will be started waiting for the TCP/IP socket connection from [GPCAMonitor_ver2.1], whose screenshot is followed:



The message [Error : open] indicates the RS232 serial connection is not established to control infusion pump hardware. You need to have actual infusion pump hardware + microcontroller to use this function. The explanation of infusion pump hardware software is out of scope of this document.

Next, run [GPCAMonitor_ver2.1] that is developed using NetBeans IDE 6.9.1.

In NetBeans IDE, open the project, and run [GPCAMonitor_ver2.1] program. The following screen will be appeared.



First, connect to [gpca_state_machine_ver2.1] through TCP/IP by specifying the server address and port number.

Then, you can send events through [Messages] field to cause transitions inside to [gpca_state_machine_ver2.1] program. The current GPCA state is appeared in the Logging screen.

For example, providing the following sequence of HEX messages will move the system from “POST_Init” state (initial state) to “Infusion_NormalOperation” state.

Example sequence) 42->93->4F->86->88->51->8A->8C->8E->48->4D->4A->4E->94

Refer to the UPPAAL model in [model] folder to figure it out which events should be provided to cause a sequence of transitions.