

11 Program for Tele-operation

11.1 Introduction

Tele-operation is used for operating the robot from a distance. A common example is a pick and place application, where the robot is controlled by the master (user) from a control room. Here a sample client-server program is developed, which controls the robot from the client. In the client the motion control is done by using the keys or the buttons in the menu, which is displayed at the client in a simulator. The simulator has the current robot location and the user at the client is able to know exactly where the robot is, along with its heading.

11.2 Algorithm and Source Code for Tele-operation

The server algorithm is meant for collecting the commands regarding motion from the client and executing them. The client algorithm gives the instructions to get these commands from the user. The client and server flow charts used for the program for tele-operation are illustrated in Figs. 11.1 and 11.2 and their sample programs written in C++ and Java are shown in Listings 11.1 and 11.2 respectively. The program output with program log session is depicted in Fig. 11.3.

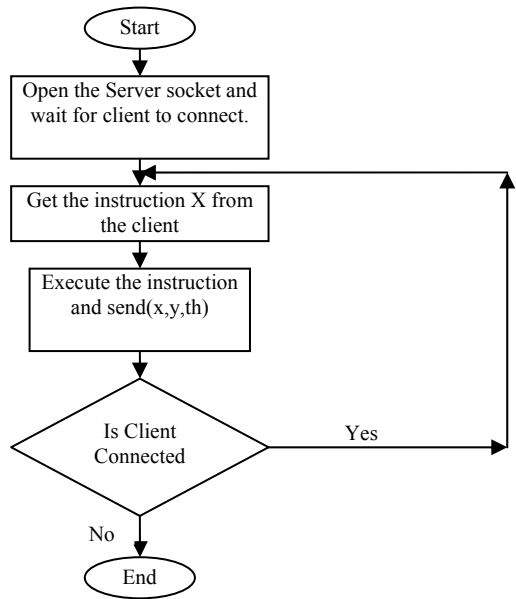


Fig. 11.1. Server flow chart for the program for tele-operation

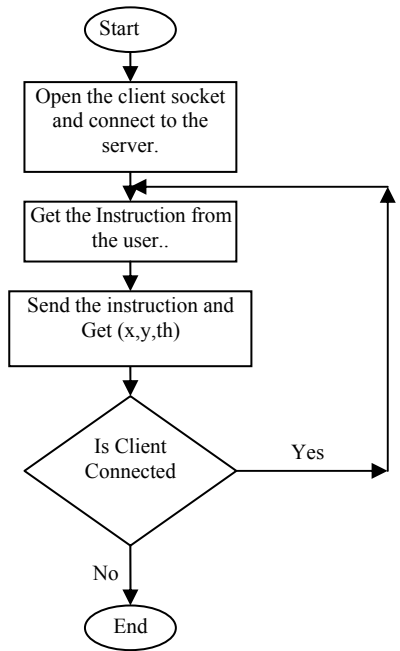


Fig. 11.2. Client flow chart for the program for tele-operation