



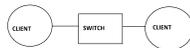
MULTI CLIENT COMMUNICATION

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Introduction

Basically this is a project on communication between clients. Clients will send message among them which will be send to destination via switch

System Overview



In this block diagram two clients is connected to switch. Client will send message to switch and switch will send it to destination.

Implementation Details

At first we will take input for which we have define 5 input pins , 4 pins for next 4 bit input and 5th one to load values of 4 pins to next 4 bit of input.5th pin work like when we turn it '1' from '0' it will load values . Next after taking input we will do data encapsulation in which startin 6 bit consist of receivers address , next 8 bit consist size of message and remaining bits consist of message. This will bits will be send to switch which will send it to destination. The switch detects the input msg revived from 3 of the ports and sends it through 3 ports accordingly.

3 'AND' gates with one of each input is connected directly to the input received by the switch and the other input is the output of the FSM. Output of each AND gate is connected to the 3 receivers.

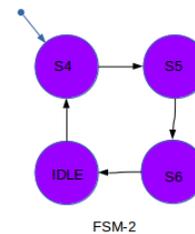
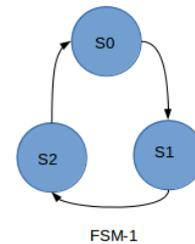
The FSM detects the id of the receiver from the msg and sets appropriate 'AND' gate input to '1'.

If the msg has 1100 as id it will set the AND gate of the first port to 1 and the others 0.Thus sending the msg directly to the receiver with id 1100. Now next is Receiving data and displaying it to LCD

Input :- A clock signal and a data signal from switch

Objective :- To print character which has come through data signal to the LCD

Implementation :- 1. The number of characters present in data signal is computed using binary number manipulation. If we add x at the end of binary string, s1 to get s2 then $s2 = 2 * s1 + x$ 2. FSM with states S0, S1, and S2 is used to send commands to the LCD to initialize it. 3. FSM with states S4, S5, S6 and IDLE is used to send character data to the LCD.



Results

We have send message from client to switch which will be send to destination.

Conclusion

Basically this is a communication between two nodes in a network which is done with the help of switch. We have done it between two clients and one switch on helium board.