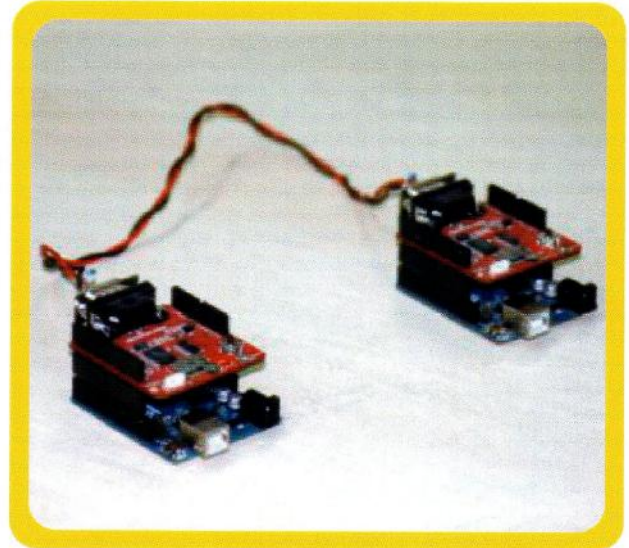


CAN bus based Industrial Control

Features

- ▲ Data communication established between two nodes using CAN (Controller Area Network) bus
- ▲ One node acquires data from user operated joystick and transmits it, the other receives the data and displays it
- ▲ CAN connection between nodes via standard 9-way D-connector
- ▲ Receiving node can perform control



Hardware

- ▲ Arduino UNO board based on the 8-bit ATmega328 microcontroller working at 16 MHz
- ▲ CAN bus capability is added by using Sparkfun's CAN bus shield
- ▲ CAN bus shield uses Microchip's CAN controller and CAN transceiver chips
- ▲ Interface between microcontroller and CAN bus shield :
 - * Serial Peripheral Interface (SPI)

Firmware

- ▲ Based on the Arduino programming language
- ▲ Uses the CAN.h library which provides functions for setting mode, bus speed and for transmitting and receiving data
- ▲ The CAN library uses the SPI library of Arduino- SPI.h
- ▲ The transmitting node forms a standard CAN bus data frame with frame id and 8 bytes of data