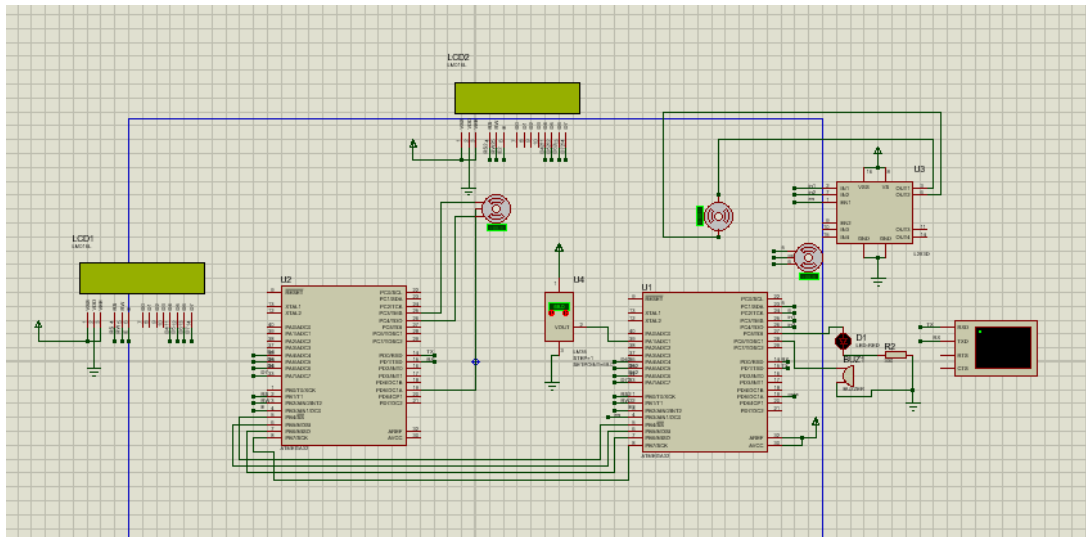Name: Mariam Mohamed AbdelAty
Group:N4

Fire Alarm

2 micro AVR of type atmega32 communicate with SPI and UART communication protocols to make a fire alarm system. The Master AVR has LCD and servo motor, the slave AVR has LCD, servo, dc motor, lm35, led and buzzer. Servos act as door hinges to open the door when a fire occurs, LCDs show fire message, dc motor act as a fan and the led and buzzer are just for warning.

The temperature is displayed in slave LCD when the temperature reaches 70 °C or more the fire alarm system starts.

Fire alarm system simulation:

Name: Mariam Mohamed AbdelAty
Group:N4

Flow chart:

```
                    ┌─────────┐
                    │  start  │
                    └─────────┘
                         │
                         ▼
            ╱───────────────────────╱
           ╱   Temp=ADC_Read(1)    ╱
          ╱───────────────────────╱
                         │
                         ▼
                    ◇ If temp>=70 ◇ ◄──────────────┐
          ┌──────────╱         ╲──────────┐        │
          ▼                                ▼        │
   ╱─────────────────────╱        ╱─────────────────────────╱
  ╱ Lcd_StringPos("Normal")╱      ╱ Lcd_StringPos("FIRE!!")  ╱
 ╱─────────────────────╱         ╱                          ╱
                                ╱   Spi_Write(0xAA)        ╱
                               ╱─────────────────────────╱
```