***SMART GLOVES FOR COMMUNICATION***

***Program Code***

“unsigned int flex1;

unsigned int flex2;

unsigned int flex3;

unsigned int flex4;

char TXT[6];

char ABC[6];

char PQR[6];

char XYZ[6];

int flag;

// LCD module connections

sbit LCD\_RS at RB4\_bit;

sbit LCD\_EN at RB5\_bit;

sbit LCD\_D4 at RB0\_bit;

sbit LCD\_D5 at RB1\_bit;

sbit LCD\_D6 at RB2\_bit;

sbit LCD\_D7 at RB3\_bit;

sbit LCD\_RS\_Direction at TRISB4\_bit;

sbit LCD\_EN\_Direction at TRISB5\_bit;

sbit LCD\_D4\_Direction at TRISB0\_bit;

sbit LCD\_D5\_Direction at TRISB1\_bit;

sbit LCD\_D6\_Direction at TRISB2\_bit;

sbit LCD\_D7\_Direction at TRISB3\_bit;

// End LCD module connections

sbit M1 at RD0\_bit;

sbit M2 at RD1\_bit;

sbit M3 at RD2\_bit;

sbit M4 at RD3\_bit;

sbit M5 at RD4\_bit;

sbit M6 at RD5\_bit;

sbit M7 at RD6\_bit; 35

sbit M8 at RD7\_bit;

sbit led at RB6\_bit;

sbit fan at RB7\_bit;

void read()

{

while(1){

flex1 = ADC\_Read(0);

flex2 = ADC\_Read(1);

flex3 = ADC\_Read(2);

flex4 = ADC\_Read(3);

Delay\_ms(1000);

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"Voice mode");

if((flex1>500 && flex1<600) && (flex2>450 && flex2<550) && (flex3>450 && flex3<550) && (flex4>260 && flex4<330))

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"I WANT WATER");

M1=0;

Delay\_ms(1000);

M1=1;

}

if((flex1>500 && flex1<600) && (flex2>410 && flex2<500) && (flex3>250 && flex3<350) && (flex4>250 && flex4<400))

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"I NEED HELP");

M2=0;

Delay\_ms(1000);

M2=1;

}

if((flex1>500 && flex1<600) && (flex2>320 && flex2<400) && (flex3>430 && flex3<550) && (flex4>290 && flex4<350))

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"I WANT TO TAKE");

Lcd\_Out(2,1,"MEALS"); 36

M3=0;

Delay\_ms(1000);

M3=1;

}

if((flex1>450 && flex1<550) && (flex2>420 && flex2<550) && (flex3>450 && flex3<550) && (flex4>300 && flex4<400))

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"I WANT TO USE");

Lcd\_Out(2,1,"REST ROOM");

M4=0;

Delay\_ms(1000);

M4=1;

}

if((flex1>560 && flex1<610) && (flex2>320 && flex2<370) && (flex3>280 && flex3<320) && (flex4>340 && flex4<380))

{

//flag=1;

//read2(); //

break;

}

}

}

void read2()

{

while(1){

// Write text in first row

flex1 = ADC\_Read(0);

flex2 = ADC\_Read(1);

flex3 = ADC\_Read(2);

flex4 = ADC\_Read(3);

Delay\_ms(1000);

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"Device mode");

if((flex1>500 && flex1<600) && (flex2>450 && flex2<550) && (flex3>450 && flex3<550) && (flex4>260 && flex4<330))

{ 37

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"Turn on the FAN");

fan=1;

M7=0;

Delay\_ms(1000);

M7=1;

}

if((flex1>500 && flex1<600) && (flex2>410 && flex2<500) && (flex3>250 && flex3<350) && (flex4>250 && flex4<400))

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"Turn off the FAN");

fan=0;

M8=0;

Delay\_ms(1000);

M8=1;

}

if((flex1>500 && flex1<600) && (flex2>320 && flex2<400) && (flex3>430 && flex3<550) && (flex4>290 && flex4<350))

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"Turn on the ");

Lcd\_Out(2,1,"Light");

led=1;

M5=0;

Delay\_ms(1000);

M5=1;

}

if((flex1>450 && flex1<550) && (flex2>420 && flex2<550) && (flex3>450 && flex3<550) && (flex4>300 && flex4<400))

{

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"Turn off");

Lcd\_Out(2,1,"Light");

led=0;

M6=0;

Delay\_ms(1000); 38

M6=1;”

}

if((flex1>570 && flex1<630) && (flex2>330 && flex2<390) && (flex3>290 && flex3<340) && (flex4>190 && flex4<270))

{

//flag=1;

read(); //break;

}

}

}

void main(){

Lcd\_Init();

TRISA = 0xFF;

TRISB = 0;

TRISD = 0;

fan=0;

led=0;

“M1=1;

M2=1;

M3=1;

M4=1;

M5=1;

M6=1;

M7=1;

M8=1;

Lcd\_Cmd(\_LCD\_CLEAR); // Clear display

Lcd\_Cmd(\_LCD\_CURSOR\_OFF); // Cursor off

Lcd\_Out(1,2,"INITIALIZING.."); // Write text in first row

Delay\_ms(2000);

Lcd\_Cmd(\_LCD\_CLEAR);”

fan=1;

led=1;

Delay\_ms(1000);

fan=0;

led=0;

flag=1; 39

while(1)

{

“ flex1 = ADC\_Read(0);

flex2 = ADC\_Read(1);

flex3 = ADC\_Read(2);

flex4 = ADC\_Read(3);”

WordToStr(flex1,TXT);

WordToStr(flex2,ABC);

WordToStr(flex3,PQR);

WordToStr(flex4,XYZ);

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,TXT);

Lcd\_Out(1,9,ABC);

Lcd\_Out(2,1,PQR);

Lcd\_Out(2,9,XYZ);

Delay\_ms(1000);”

if((flex1>560 && flex1<610) && (flex2>320 && flex2<370) && (flex3>280 && flex3<320) && (flex4>340 && flex4<380))

{

“flag=0;

Lcd\_Cmd(\_LCD\_CLEAR);

Lcd\_Out(1,1,"device mode");

Delay\_ms(1000);”

read();

}

else

{

read2();

}

}

Delay\_ms(2000);

}