APPENDIX 1

CODING

```
#include<SoftwareSerial.h>
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x3F,16,2);
const int trigPin1 = 5;
const int echoPin1 = 4;
char serIn;
// defines variables
SoftwareSerial serial(9,10);//gsm
long duration;
int distance;
void setup() {
Wire.begin();
lcd.init(); // initialize the lcd
// // Print a message to the LCD.
lcd.backlight();
lcd.setCursor(0,0);
lcd.print("Field Monitor");
pinMode(trigPin1, OUTPUT); // Sets the trigPin as an Output
pinMode(echoPin1, INPUT); // Sets the echoPin as an Input
50
serial.begin(9600);
Serial.begin(9600); // Starts the serial communication
digitalWrite(13,LOW);
}
void loop()
{
// Clears the trigPin
int acc_x = analogRead(0);
//Serial.print("x=");
//Serial.print(acc_x);
delay(1000);
digitalWrite(trigPin1, LOW);
delayMicroseconds(2);
// Sets the trigPin on HIGH state for 10 micro seconds
digitalWrite(trigPin1, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin1, LOW);
// Reads the echoPin, returns the sound wave travel time in microseconds
int duration_1 = pulseIn(echoPin1, HIGH);
// Calculating the distance
int distance_1= duration_1*0.034/2;
// Prints the distance on the Serial Monitor
```

```
//Serial.print("Distance_1: ");
//Serial.println(distance_1);
delay(1000);
int pirStat = digitalRead(2);
//Serial.print("Pir=");
//Serial.print(pirStat);
delay(1000);
if(pirStat==HIGH)
{
//Serial.print("human find");
Serial.println("c");
while(Serial.available()>0)
if(Serial.available()>0)
{
serIn= Serial.read();
delay(10);
if(serIn=='a')
{
for(int i=0;i<15;i++)
{
lcd.setCursor(0,1);
```

```
lcd.print("Human in field");
digitalWrite(13,HIGH);
}
delay(10);
}
else if(serIn=='b')
{
for(int i=0;i<15;i++)
{
lcd.setCursor(0,1);
lcd.print("Animal in field");
digitalWrite(13,HIGH);
}
delay(10);
}
}
}
else if(acc_x >400)
{
serial.println("AT+CMGF=1"); //Sets the GSM Module in Text Mode
```

```
delay(1000); // Delay of 1000 milli seconds or 1 second
serial.println("AT+CMGS=\"+917904236814\"\r"); // Replace x with mobile number
delay(1000);
serial.print("some one enter the field");// The SMS text you want to send
delay(100);
serial.println((char)26);// ASCII code of CTRL+Z
```

```
delay(1000);
//Serial.println("Sending_message");
}
else if(distance_1<20)
{
serial.print("ATD +917904236814;\r");
//Serial.println("calling");
}
else
{
digitalWrite(13,LOW);
}
}
```