IoT BASED POULTRY HOUSE MONITORING SYSTEM

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Abstract – The system demonstrates the creation of innovative systems that facilitate   control and supervision regardless of distance and time. In a poultry house, both temperature and humidity levels should be monitored regularly in ensuring the system runs smoothly. To enhance the security the rfid reader and tag is used. The temperature sensor used to sense the temperature of the chicken .The fire sensor will alert the user if there present any fire accident. Water level is also measured and the water pump motor will be turned on automatically to feed the chickens. In the new era of networking technology, we cannot deny the greatness of Internet of Thing (IoT).

*Key Words***:** Temperature sensor, IoT module, Water level sensor, Fire sensor, RFID tag & Reader.

1. INTRODUCTION

Nowadays, chicken poultry industry is an important industry for sustainable food supply in our country. The development of an automatic chicken feeding machine can be very useful to the growth of the poultry industry, the water sprinkler for control the temperature is most important task and labour-intensive task. These manual processes are needed in normal poultry farm. In order to replace manual Activities and poultry work easier with making smart poultry farm. For implementation of smart poultry farm to use one kind of smart system for Automatic Food Feeder in container and water sprinkler for control the temperature of environment. System is designed in such way that user can remotely control to the system through android mobile application. Using this prototype Human work is also reducible and smart work will be done

1.1 MOTIVATION OF THE PROJECT

In previous work environmental parameters are not monitored. We have an alert system in case of emergency. This is an automatic system.If any chicken got affected by any diseases it can't be identified through our naked eyes. So, we proposed this kit to identify the temperature level of the particular chicken in the poultry farm. To develop an IOT based system with making Smart Poultry farm. System supports food feeder to the chickens, system is able to maintain the temperature to provide the mechanism of water. System checks humidity, temperature at poultry farm.

1.2 PROPOSED SYSTEM

- Our proposed system makes use of sensors to measure the weather/environment factors such as temperature, humidity.
- The values read from the sensors are processed by the Arduino micro-controller.
- This project highlights the IoT solution in monitoring the temperature and humidity condition including the presence of electricity connectivity, regardless of time and place

1.3 WORKING PRINCIPLE

This iot based poultry house monitoring System is fully automated device which is capable of operating without human intervention at all time regardless of the location being installed**.** The water level is detected by utilizing wireless sensor technology which is designed to generate a digital signal from the monitored location.The real time water level information is sent to the monitoring station as programmed, via the short message system (SMS). This iot based poultry house monitoring System consists of three main sensor which are connected to one another in the arduino UNO.

2. BLOCK DIAGRAM

2.1 BLOCK DIAGRAM DESCRIPTION

The Arduino Uno atmega232P is a microcontroller board based on a removable, dual-inline-package (DIP) microcontroller. This allows for faster transfer rates and more memory. The IoT approach is deployed for data collection from the sensors and communication over Wi-Fi.The purpose of DHT11 sensor is used to sense the temperature and humidity inside the poultry, water level sensor is to predict a water level in the feeding tank , fire sensor which is used to sense the abnormal temperature inside the poultry, temperature sensor which is used to dedect the temperature of the animal inside the poultry. RFID tag which is placed on the animal, is used to detect the location of the animal.

3.1 HARDWARE REQUIREMENTS

- Water level sensor
- RFID Tag & Reader
- Arduino uno
- IoT module
- DHT11 sensor
- Temperature sensor
- Motor
- Fire sensor
- Lcd display

3.2 SOFTWARE REQUIREMENTS

- Arduino IDE
- Embedded C
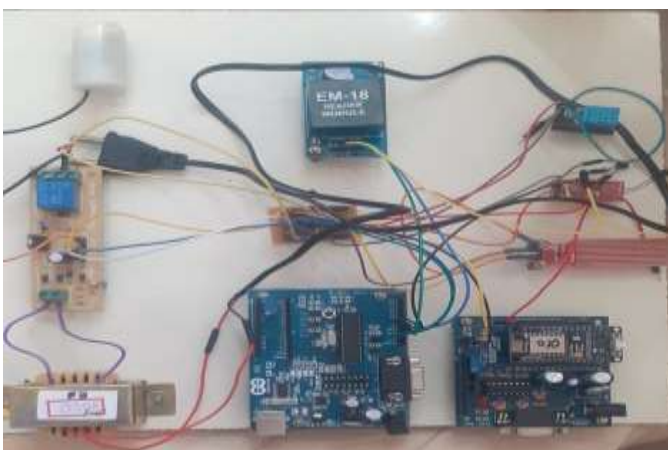
4.1 HARDWARE RESULT:

FIG 4.1 Hardware connections

4.2 SOFTWARE RESULT

In software coding,we add the logic of our program to alert the buzzer,Lcd display and to send the sms.

```
const int sensor_pin = 3;

#include <dht.h>

int dataPin = 8 ;

    dht DHT;

int water=A0;

void setup()

{

  Serial.begin(9600);

  pinMode(8,INPUT);

}

void loop()

{

  int firevalue=digitalRead(3);

  Serial.println(firevalue);

 delay(500);

  int waterlevel=analogRead(A0);

  Serial.println(waterlevel);

  delay(500);

  int readData = DHT.read11(dataPin);

  float t = DHT.temperature;

  float h = DHT.humidity;

  Serial.print("Temperature = ");

  Serial.print(t);

  Serial.print(" *C ");

  delay(1000);

  Serial.print("Humidity = ");

  Serial.print(h);

  Serial.println(" % ");

}
```

CONCLUSION

Poultry House monitor is IoT based system that able to monitor the temperature and humidity from a smartphone.Thus, the user will know what the condition in the poultry is based on the data shows.This system has the potential to be a monitoring agent for any kind of controlled environment not only poultry house, even can be used to monitor home and offices.In the future, the enhancements might be added to improve the system whether in term of hardware of software.This work can be extended by providing prediction functions to make an analysis of the collected data for a better report in the researches experiment and the production of quality livestock.

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