

ANIMAL HEALTH MONITORING SYSTEM USING IOT

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Abstract: Now a days, many advanced technological techniques in real world operations are generated by scientists and engineers. Animal health is most important factor because they are used in farm, security purpose etc. no one cares or thinks about them. We cannot observe their issues easily. In current era, dairies contain large number of cow's. Therefore to take of them, monitor them is more difficult. In animal health monitoring system the major aspect is to monitor health of individual cow. So that we can easily observed and give treatment to sick cows. In our system we used various type of sensors like temperature, accelerometer and GPS. The statues of animal can be send to the animal health center.

I INTRODUCTION

Now a day, animal health is most important factor because they most useful in farm, security purpose etc and no one care or think about them. .We cannot observe their health issues easily.

The main aim of the project is to monitor animal health using IOT. In this project we measure temperature, movements, position of cows. In GPS system we can track the location of animal. It may give us the proper outcome. However human cannot able to identify the actual health problems related to animal, so this project will help to us. There will be a possibility of robbery of animals so that tracking provision is involved in this project. By using our project we can diagnosis the health issues of animal.

II .LITERATURE SURVEY

In recent times, animal welfare had become an increasing concern due to a shift from small sized labor based farms to much larger autonomous and industrialized farms.

In 2001,A system was invented in which data was manually entered in to the integrated electronic data base system. The prior objective of the system was that it could allow the persons to identify their animals with the help of electronic identification units. They were mainly of the form of collars, ears tags and bolus in the stomach[1].

In 2003,The bovine mobile observation operation unit was designed to communicate with a variety of sensors. It used Bluetooth links to send the data back to a farmer,

a veterinarian etc. microchip PIC micro-controller is the important components of BMOO. For this purpose the animals should be within 10 meters range which is used to prevent the spread of disease[2].

In 2012,A system was invented to monitor the health of cattle using a wireless sensor mote. It used in-network processing algorithm to monitor the data[3].

From the above literature survey it can be summarized that with the help of two IEEE papers we can conclude that we can monitor or observe health issues of animals

III. PROBLEM MOTIVATION

Now a days, In dairies and farmers use the special technique to diagnosis the health issues related to the animal.it requires daily monitoring and requires more number of labors. If we consider any animal health monitoring system sometimes it will gives us wrong outcomes and which will be different from the actual results.

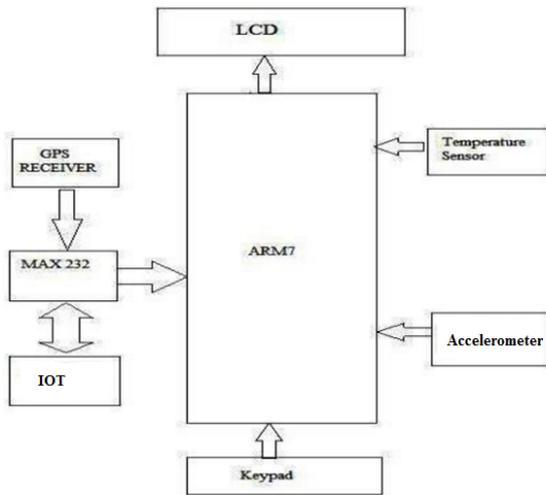
IV. PROPOSED SYSTEM

TEMPERATURE SENSOR:-

In a sensor technology, the temperature sensor is used to sense the temperature of cow. The LM35 temperature sensor is used and It is having 3 Pin sensor with INPUT, OUTPUT and GND. The range of the temperature sensor is -40 to 110C. If temperature of cow is less or more than normal body temperature then cow may suffer from cow fever or poisoning.

ACCELEROMETER:-

It is piezoelectric sensor and it is wave like sensor which generate a wave which will identify about variations in the cows position i.e. she is sitting or standing.



BLOCK DIAGRAM EXPLANATION

GPS Modem:-

It is Global Positioning System. It is used to track the exact position of animal. It also measure latitude, longitude and altitude. This module track up to 20 satellites at a time. This module incorporates high sensitivity and high performance.

ARM7 LPC 2138:-

It is microprocessor which is having 32 bit address. It is having 512KB high speed flash memory. It has two 8 channel ADC with two 32 bit timers/counters, in which serial interfaces with 2UART,two fast I2C, Capture, compared and PWM Module.

IOT (Internet of Things):-

It is fully wireless system. It has one client and many server and it has the connectivity to the physical device. In earlier, IOT is most widely used application. Monitoring and controlling is also done by using IOT.

V. HISTORY

The existing system for Animal Health Monitoring uses either ZigBee or RFID for wireless communication link. And the sensors in few systems are implanted into animal causing inflammation. While in other they are used in the forms of collar, but however not all the parameters are taken into consideration for determining

a healthy animal. The wearable based device varies from animal to animal. The proposed system will overcome the drawbacks of the existing system. Four important sensors called ,heart rate sensor, temperature sensor, pulse rate sensor and respiratory sensor are used And a GPS (Global Positioning System) is deployed to track the movement of an animal incase if the animal is missing or lost. The data from the microcontroller is taken via the ZigBee transceiver and given to PC which will have software that would analyse the severity of the animal health issues. And later the same software can be accessed via various devices implementing Internet of Things.

VI. ADVANTAGES AND DISADVANTAGES

1. Using temperature sensor, we can sense temperature of animal.
2. Using GPS, we can track location of animal
3. System is battery operated.
4. Using accelerometer, we can observe moment of cattle, which cattle is standing or seating.
5. System is not waterproof.

VII. FUTURE SCOPE

Currently this system is used in foreign countries so if we use this system in our country then it is very useful and beneficial for farmers in low cost. We can improve the battery life of system and make the system waterproof also we can measure the remaining milk quantity in cow’s stomach. We can place camera to watch cow’s activities.

VIII. CONCLUSION

Safety and security for animals. GPS tracks position of animals anywhere on globe and also health system monitors animal’s vital health parameters which provides security and safety provides for cows. Less complex circuit and power consumption. Use of arm processor and low power requiring peripherals reduce overall power usage of system. Modules used are smaller in size and also lightweight so that they can be carried around.

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