ARDUINO BASED DESING FOR DETECTION OF STEROID AND SPOILAGE OF FOOD

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Abstract :

One of the main goods that people drink in greater amounts is milk. To boost the output of dairy for their own benefit, business people who are involved in dairy farming are injecting more steroids into the cow. When consumed in bigger quantities, these are detrimental to people and cause a variety of irregular health difficulties in their bodies.

With the aid of experimental studies on milk and meat products, this project outlines the measurement of steroid and Food spoilage detection using a sensor and a 16x2 LCD display. Breast cancer, prostate cancer, early puberties, and many other long- and short-term ailments are among the catastrophic illnesses that are being brought on by the rising levels of steroids in milk and meat.

I. Introduction

The growing food industry and increased demand for the long-term storage and preservation of food have created the need to develop methods that can easily track and preserve food freshness and safety throughout the shelf life of the product (production, storage, shipment, and consumption). Smart sensors and labels that can be attached to packaging represent next-generation technology that can help monitor the status of the product. These can be designed to measure markers of freshness and provide an "index of quality" of the product in real time, measure temperature changes, or identify the presence of harmful components. [1] Additional capabilities can be added to provide protective functions, for example, packaging with coating that can act as an oxygen barrier to prevent spoilage. India ranked second in the production of vegetable and fruits after China with 13.4% of total production. Among the total production of 1.21 billion. There are total of 110.7 million comes under the list of farmers. Also, India ranked fourth in the world in the production of agrochemicals. [2] Survey conducted by various institutes indicates that 50 - 70% of vegetables production are contaminated with pesticide residue. Balwider Singh (2016) Increase in the population of India produce higher demand for food as well as decrease in land for farming. Therefore, to fulfil the increase in demand, food is adulterated to get more quality in short period of time. Food safety and hygiene is important to prevent food spoilage and food poisoning. We have to monitor the quality of food in order to avoid food poisoning by eating contaminated food. Around 3, 00,000 people die due to food contamination globally every year. In order to avoid this food should be monitored by various sensors. It is necessary to identify the freshness of food items. Our project mainly focuses whether the food is spoiled or not by using. This will improve food quality and safety. The sensors will continuously monitor the gas levels coming out of food. Milk is one of the major products that contains large amounts of calcium and many proteins. It is secreted by many mammary glands of mammals like cow, buffalo, goat, bat, and by female human beings. They are the main calcium rich liquids, which enhances the growth of bones, and gives the high-level strength to the bone marrow. Thus, milk is very much important, yet many chemicals are included for boosting the quantity. The product is not only used as a single ingredient to intake and meanwhile they are flow fully used in many chocolate factories, cooking, and are taken by animals. Such healthy products are to be maintained at good value and proportions are to be actively safer.

II. Literature Survey:

Steroid estrogen hormones have received considerably greater attention in recent years because to their widespread use and real endocrine disruption in both humans and other animals. To support the overall massive measure of image quantitation, factual investigation, as well as study bunch correlations, a fully programmed information recovery and examination conspiracy was carried out.

Then, using the selected anabolic steroids, profoundly significant differences in muscle and organ development were identified between faultless and mutilated guinea pigs, proving the validity of applying this convention to evaluate other anabolic steroids.

Similar to any alternative human activity, food choice is complex and influenced by a number of interrelated circumstances. It is essential to comprehend the nursing-related elements since they have had a significant impact on population dietary alteration. a range of models.

III.   METHODOLOGY

NodeMCU is a development board and open-source Lua-based firmware that is specifically designed for Internet of Things (IoT) applications. It has hardware based on the ESP-12 module and firmware that runs on Espressif Systems' ESP8266 Wi-Fi SoC.

The ESP-12E module, which houses the ESP8266 chip with Tensilica Xtensa 32-bit LX106 RISC microprocessor, is included with the NodeMCU ESP8266 development board. This microprocessor has an adjustable clock frequency range of 80 MHz to 160 MHz and supports RTOS.

The sensors and devices are interconnected and being used to measure the milk quality and undergoes the validating process. The sensors which while working shows the exact output in the LCD which displays the pH level of the milk which when kept contact with the product. When a steroid (combination of chemicals) is inserted into an animal, the gas sensor senses the acids which are used and displays it in LCD.

Analysis is a predefined one which is already done at the backend of programming, according to the data used behind it checks for the chemicals used in the steroid and shows the output at the LCD. Steroid contains many harmful elements which will affect the human body later when they get old. So, the thing which is implemented now is according to the chemicals used, it also displays the organ which is affected by the required steroid element. The pH value differs in such cases, according to which the organ will be affected, this value get varies from pH to pH.

Working MQ3 sensor detect the emission of a gas from fruits MQ3 sensor convert consideration of gases into analogue output and it is given Arduino A0 pin. Arduino will convert analog voltage to digital values by inbuilt analogue to digital converter in it. Digital values are converted into strings by 16x2 character LCD and it will display character.
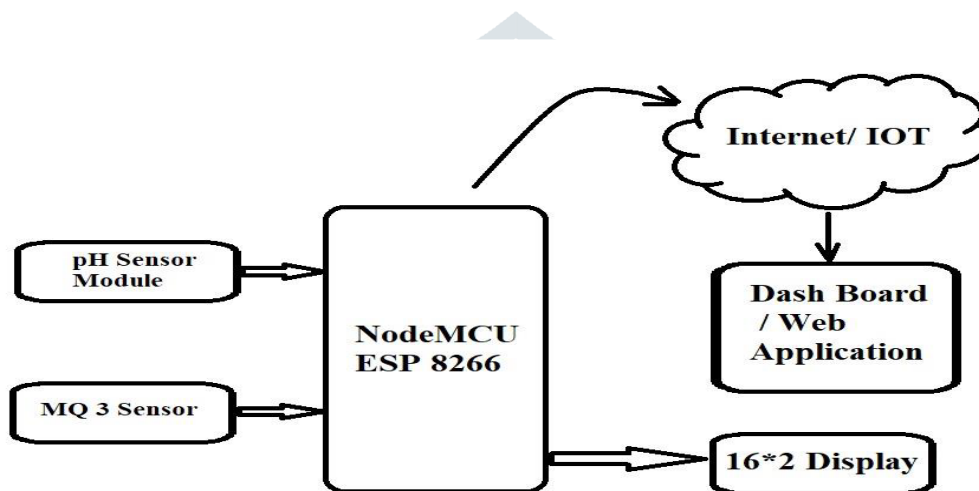
Block Diagram:

fig1. IOT based steroid & food spoilage detection.

Steps-
- First "Welcome"," IOT Project" Messages Are prited on LCD.
- Then the NodeMCU will connect to given network.
- Then the input values is taken from sensors & processed data.
- After processing the data is sent to Web Application, & message is printed on LCD.
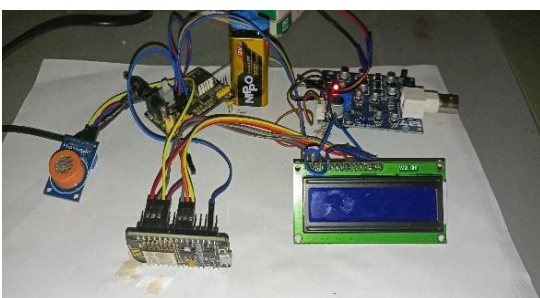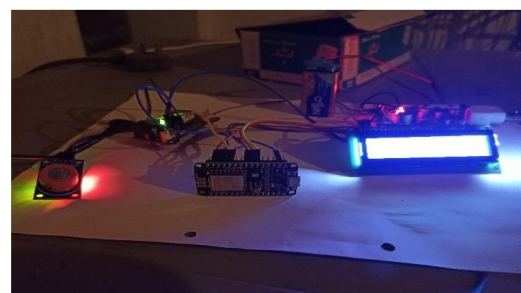
IV.   RESULT

fig2. final setup

fig3. working setup

V. CONCLUSION

This paper describe the use of IOT (Internet Of Thing) Model for detection of steroid level & spoilage of food.by analyazing the ph value of milk & the alcoholic smell produced by the food is sensed by sensor & the data is monitored using Web Application.

REFERENCE

[1]IOT BASED SMART FOOD MONITORING SYSTEM 1 Professor Rajesh Kumar Kaushal, 2 Harini. T, 3 Pavithra Lency. D, 4 Sandhya.T, 5Soniya.P 1 Dept of Electronics and Communication Engineering, Dr. T. Thimmaiah Institute of Technology, Visveswaraya Technological University, Belagavi, Karnataka, India.