



Pesticide Identification in Fresh Fruits & Vegetables Using IOT

Muthukrishnan V¹, Mohan Kumar B², Tharun B³, Praveen V⁴

UG Student, Dept. of Computer Science and Engineering, Bannari Amman Institute of Technology, Sathyamangalam,
Tamil Nadu, India ^{1,2,3}

Assistant Professor, Dept. of Computer Science and Engineering, Bannari Amman Institute of Technology,
Sathyamangalam, Tamil Nadu, India ⁴

ABSTRACT: In India most of the diseases caused by food borne illness, resulting in more number of hospitalizations and deaths are happened. For the reason we are designing a project called food detection system using Internet Of Things (IOT). It is used to test a freshness food like meat, fruits. Different sensor are used to testing a food quality like, pH sensor is used to test a salt content of the food and normal pH value is stored in IOT server and compared to that food. The colour food is checked or abnormal condition. The fruit freshness is tested using image processing testing colour of food and testing food freshness. In this way we are checking food quality in an effective way to avoid food borne illness and buy a healthy food and make a human wealthy.

KEYWORDS: IOT, PH Sensor.

I. INTRODUCTION

During various stages of cultivation the pesticides are chemical substance applied to the crops at the time of harvesting it is applied to the crops. The pesticides is used to prevent the plant disease and to grow the crops healthy and good quality. But now a days there are so many kinds of the pesticides are been used to the crops so it cause so many kinds of the disease and the fruits and vegetables that contain so many amount of the pesticides it makes several kinds of disease. so the project is design to prevent the disease that are cause by the highly contaminated pesticides fruits and vegetables. It will prevent the consumer to do not buy the highly pesticides fruits and vegetables through the scanning the fruits and vegetables[1].

II. RELATED WORK

The Food Monitoring System is used to detect the low energy level of the food and they have used the Bluetooth low energy and there are so many sensor are used to identify the presence of the gas and the temperature that are present in the fruits and vegetables. Then they have used the IOT to make the information to be monitor the food products and they have used the GSM/GPRS to have the information that are to be transfer the information to the consumers [2].

This system is design to monitoring the industry. The system is used to monitoring the temperature and the water level the tank has been monitoring from the connection. This system use the temperature sensor to find the parameter. This shows the analogue output is known as the amplify. Amplified signal are to be feed in the ADC for the digital data. The Pic controller is used to production the communication od the data through the modem and for the display purpose the data has to be transferred to an LCD [3]. The several fields of the technology they use the multipurpose sensor to been investigated and the aim to develop the innovative device and including the food industry. For the intelligent food packing the integration of such sensor has been used for an intelligent packing. The integrated system is used to have the capable of reliable information of the packed food at the time of the storage period. It will has the intelligence package to make the variety of sensor to monitor the Quality and the safety of the food that are been stored in the area. Using the sensor that are monitoring and through the help of data that are be evolution from the fruits and vegetables. The IOT is also include to make the inspection simple and efficient through lot of information like weight, colour, volume and aspect inspection [4].

In order to detect the pesticides residues the agriculture products traceability. The system has been design based on the acetylcholinesterase biosensor and the Internet of things it has been constructed. The system has established to monitoring the data and the pesticide residues and to detect the location. Through this the data has monitoring has to make the efficient way of the products and gathering the data and that are analysed by the help of the data using the information we can track the products and make the safety way of the products this system has design through the



Ache biosensor and IOT for pesticides detection and for efficient products[5].Through the help of the Internet of things (IOT) is technology use in the wide range for the industry. IOT comprises of radio Frequency Identification (RFID), Wireless sensor networks (WSN) they were for sensing, tracking, etc,Arduino and pest detect sensor were used to detect the pest present in the fruits and vegetables through the LCD display we can display the percentage of the pest present in the fruits and vegetables.

III.PROPOSED SYSTEM

The working of our proposed system. Different sensor are used to testing a food quality like, pH sensor is used to test a salt content of food and normal pH value is stored in IOT server and compared to that food.. The fruit freshness is nested using image processing testing colour of food and testing food freshness. In this way we are checking food quality in a effective way to avoid food borne illness and buy a healthy food and make a human wealthy. Our proposed is designed to make a compact and handy to detect and alert the human to find UN healthy food. It is used in also take shop to buy a fresh food fruits and meat also. The image processing is used find test the colour of the food and it is monitored by PC and IOT server and we are buying quality of food.

IV.BLOCK DIAGRAM

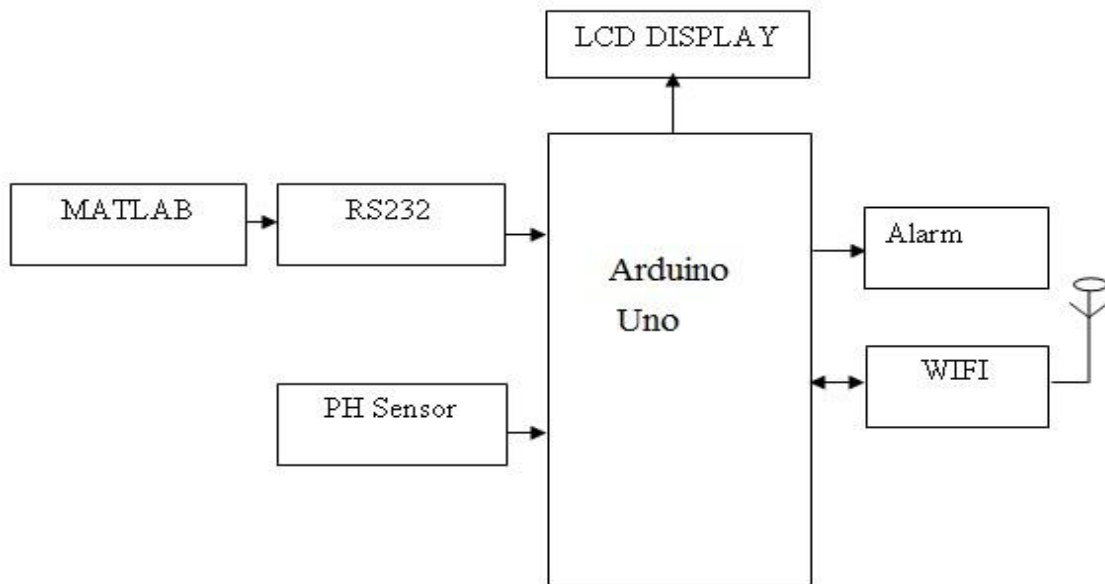


Fig 1. Flow chart

V.BRIEF METHODOLOGY

In this project PH sensor plays a major role due to the calculation of the PH level this project has been made and the project has been made through the help of the IOT to make the data to be stored in the IOT server and within few seconds it will automatically update the value of the PH and based on the solution it will vary from the level of the PH and The LCD display is used to display the PH level and the name of the fruits and vegetables . The name of the image is made through the help of the image processing with the help of the MATLAB the image of the fruits and vegetables are trained it will make the name to be visible in the LCD display and the ANDROID app. The WIFI- modem has been connected through the hotspot this is the way The PH level has automatically updated in the app and the LCD display it will take few minutes to make a standard PH level of the water this is the way the PH level of the water is calculated and the pesticide content of the fruits and vegetables has been tested and when the PH level is less than 6 or greater than 10.5 there is a buzzer to intimate it is harmful to consume the food products.

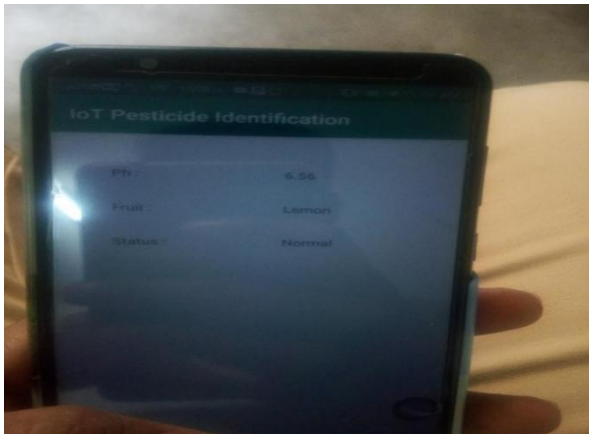


Fig 2. Android App



Fig 3. LCD Display

VI.CONCLUSION AND FUTURE WORK

Finally, we conclude that by using IoT based monitoring the pesticides in fruits and vegetables .Detecting the pests present in fruits and vegetables or any residues present through the pest detection sensor it senses and passes the information to the Arduino and then displays in an LCD display .By detecting through the process it informs that how much residues of pests present so that the fruits and vegetables are washed the PH level of the water has been scanned and through this we can make the pesticide level of the fruits and vegetables. The name of the Fruits and vegetables has been displayed on the LCD display and that are been made through the image processing and some of the fruits has been trained to display the name in the LCD display and for each time the pH level of the fruits and vegetables has been monitoring and that are been stored in the server through the help of the IOT server we can see the result of the fruits and vegetables . for few seconds it will automatically change the result of the fruits and vegetables of the scanned.

REFERENCES

1. A.Venkatesh,T.Saravanakumar,S.Vairamsrinivasan,A.Vigneshwar, M. Santhosh Kumar.” A Food Monitoring System Based on Bluetooth Low Energy and Internet Of Things ”issn:2248-9622,vol.7,issue 3,(part 6) march 2017 ,pp 30-34.
2. Usama Abdullah1, Ayesha Ali2 “ GSM based water level and temperature monitoring system “ volume 3. issue 10. october 2016.
3. Alexandru Popa 1 , Mihaela Hnatiuc , MirelPaun , OanaGeman , D. Jude Hemanth, Daniel Dorcea , Le Hoang Son , and Simona Ghita “ An Intelligent IOT-Based Food Quality Monitoring Approach Using LowCost-Sensors “ 13 march 2019.
4. Guo Zhao;,YeminGuol, xiasun,xiangyou wang “ A system for pesticide residues detection and agricultural products traceability based on acetylcholinesterase biosensor and internet of things “ February 2015.
5. Nikitha.r, Pavithra .T.k, Pavithra .v, Kavyashree.M, Mrs.vijayalakshmi “ IOT based solution for monitoring of pollution through pesticides in fresh fruits and vegetable available in market” march 2019.