

A PROJECT REPORT

ON

PERESHABLE FOOD MONITORING THROUGHOUT THE SUPPLY CHAIN

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE DEGREE OF

B. Tech

BY

K. SATYA SHIVA SAI RAM 187Y5A0532

B.PRASHANTH REDDY 177Y1A05F0

B.KAMAL SAI 177Y1A05D8

UNDER THE ESTEEMED GUIDANCE OF





Marri Laxman Reddy Institute of Technology and Management 2019

Marri Laxman Reddy Institute of Technology and Management DEPARTMENT OF COMPUTER SCIENCE ENGINEERING



CERTIFICATE

This is to certify that the project report "PERESHABLE FOOD MONITORING THROUGHOUT THE SUPPLY CHAIN" submitted by K. SATYA SHIVA SAI RAM (187Y5A0532), B.PRASHANTH REDDY (177Y1A05F0), B.KAMAL SAI (177Y1A05D8), in partial for the award of "B.Tech COMPUTER SCIENCE ENGINEERING" submitted to the state board of technical education training is a record of bonafied work carried out by him/her under our guidance and supervision.

The results embodied in this seminar report have not been submitted to any other University or institute for the award of any degree or B.Tech.

ABSTRACT

Food safety is imperative to avoid food borne diseases and to ensure the public health. Monitoring of perishable food products and early detection of degradation will avoid loss due to food wastage and also ensures the freshness of food. In this scenario, remote monitoring of fruits during transportation from field to shelf can ensure the quality of fruit. In this work, a wireless sensor network was designed for monitoring of fruits during transportation and even after storage. Internet of things was also used for facilitating online monitoring of fruits from any remote location. NodeMCU was used as sensor node and gateway node. It has performed the fusion of sensor data such as temperature, humidity and moisture to avoid redundant data storage and increase the efficiency of decision making. The project is not only used in during transportation, it is used in foods cold storage, medical cold storage etc. And can monitor form any place and can be controlled, because it was wireless communication.

Index

CERTIFICATE	
ABSTRACT	
LIST OF FIGURES	
LIST OF BLOCK DIAGRAMS	
LIST OF TABLES	
CHAPTER-1	1-2
1.1 Introduction	1
1.2 Block Diagram	2
CHAPTER-2	3-6
2.1 Hardware	3
NodeMCU	3
NRF Module	4
DHT11 Sensor	6
CHAPTER-3	8-11
3.1 Software	8
3.1.1 Arduino IDE	8
3.1.2 IBM Cloud	9
IOT Platform	9
Node-Red	10
3.1.3 MIT app inventor-2	11
CHAPTER-4	12-28
4.1 Procedure	12
4.1.1 Software implementation	12
Arduino IDE	12

Node-RED	16
Mit app inventor 2	21
4.2 Hardware implementation	26
NodeMCU	26
CHAPTER-5	29
5.1 Project Description	29
5.2 Project Highlights	29
CHAPTER-6	30
6.1 Conclusion	30

LIST OF FIGURES

CHAPTER-1	
1.1 Introduction	1
CHAPTER-2	
2.1 NodeMCU	3
2.2 NRF Module	4
2.3 Connections	6
2.4 DHT11 sensor	6
2.5 Wires	7
CHAPTER-3	
3.1 Arduino	9
3.2 IOT	10
3.3 Node-Red	10
3.4 MIT app	11
CHAPTER-4	
4.1 -4.13 flow	16-25

LIST OF BLOCK DIAGRAMS

CHAPTER-I	
1.2.1 Block diagram	2
LIST OF TABLES	
CHAPTER-2	
2.1 NodeMCU Pins	4
2.2 NRF Nodule pins	5
CHAPTER-4	
4.2.1 NodeMCU Pins	26