e-ISSN: 2582-5208
International Research Journal of Modernization in Engineering Technology and Science
Volume:02/Issue:05/May-2020 www.irjmets.com

SMART SYSTEM FOR ONION STORAGE

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ABSTRACT

India ranks second in onion production in the world. Onion acquired 6% share in the production of vegetables in India. It has a wide impact on national economy and financial status of consumers/growers. The stored onions in onion in onion sheds are exposed to the hot, cold and humid air. Due to continue change in climate can rot. Once the process is iniated it grows drastically and rapidly resulting in unexpected loss. This system can help to avoid loss. Various gas sensors are used to sense emitted gases. When onions starts rottening,developed system informs owner and also sends alert. The proposed system is performing three main function-opening and closing of curtains, Smell detection of rotten Onions and notifying the user.

KEYWORDS: Onions, Rotten onions, Gas sensor.

I. INTRODUCTION

India is the second most populated country of world after china Population of India is 1.37 billions. Onion is one of the biggest vegetable crops in India. India is the Second Largest Producer of Onion in the World. Onion is one of the most important commercial crop of India. In India, onion crop is grown in above 1.20 millions hector area with an animal production 19.14 millions tons with productivity 16.12 tons per hectors. By considering survey, we observed 60 to 75 percent onions are get wasted from total production. These is big loss to our farmer and our nations. To overcome from this problem and save the money of our farmers and nation, we are working on this project.

Electronic noses can be a low-cost instrument for detecting smells, There is precedent in using electronic noses to identify different chemicals in odors. Postharvest diseases cause onion degradation, rotting and a unique odour. The e-nose is able to monitor onion storage for the odor. The e-nose collects data and sends it to a computer. The computer then determines the results. When rain comes, farmers have to visit their onion storage to cover the onion shed to protect onion from rain. If farmers are not available on that place or not able to visit to onion shed on time then onion get wet, because of this onion get wastage and farmers in loss. Also farmer don't have idea how many onion get rotten in onion storage. In this project, by checking weather condition through wi-fi we will send notification to motor which will place on four corner of shed or depends on onion shed. When motor get signal they will released curtains till the bottom of the shed.This process will protect onion shed from rain, Which cover the drawback of manual process.By considering survey, we analyze farmers faces problem will detecting rotten onions or they are not able to tell how much onions are rotted in onion storage. By using smell sensor we will try to find how much onion are rotted in storage. By placing the sensor on the shed by considering their range. System will send collected data through sensor to the farmer by using message and by checking they easily get notification about how many onion are rotten in storage.

II. METHODOLOGY

In proposed system, smart onion shed is used for storage of onion. The shed is consists of various sensors to detect the rains as well as smelling of rotten onions.

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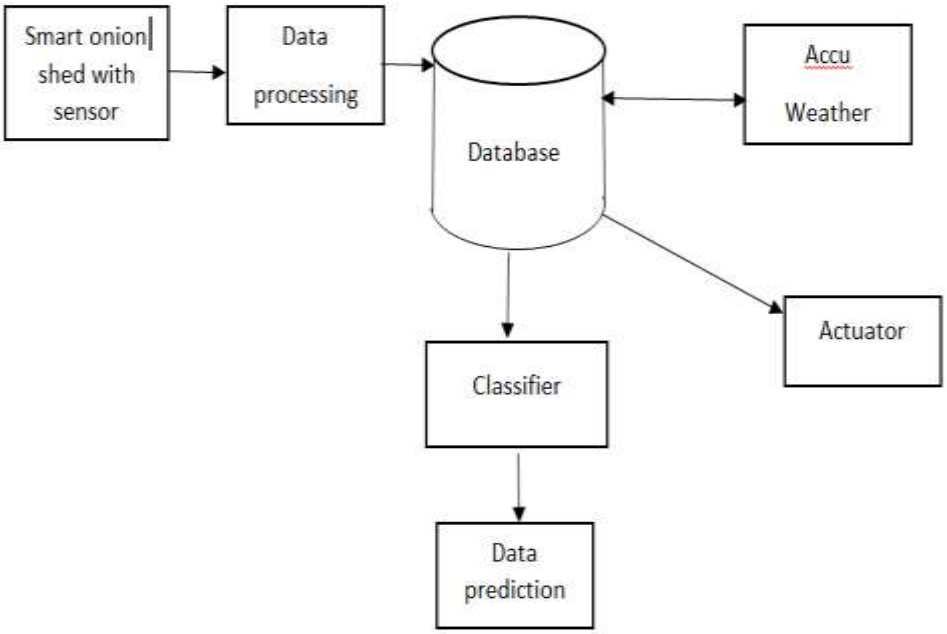

Fig-1

a) Onion Shed

In proposed system, smart onion shed is used for storage of onion. The shed is consists of various sensors to detect the rains as well as smelling of rotten onions.

b) Data Processing

Data processing is generally the collection and manipulation of items of data to produce meaningful information. Data processing is useful in validation, sorting, summarization, aggregation, analysis and reporting. Data processing is the conversion of data into usable and desired form. This conversion or processing is carried out using a predefined sequence of operations either manually and automatically.

c) Data Prediction

Data Predictive is the use of data, statistical algorithms and machine learning techniques to identify the likelihood of future outcomes based on historical data. The goal is to go beyond knowing what has happened to providing a best assessment of what will happen in the future. Predictive Analytics makes use of statistical models and forecasting techniques to understand the future . Prescriptive Analytics makes use of optimization and simulation algorithms to advice on possible outcomes and answer. Data Predictive prime objective is to analyze data and manipulating variables to extract forecasting capabilities from existing data. It is done by using SVM.

d) Data Storage

A database management system (DBMS) is system software for creating and storing large amount of sensor data.

III. RESULTS

The system automatically sends notification to users when it sense rains. It also senses humidity, temperature of onion storage and if value is below or above the threshold then it sends alert to the owner of system.

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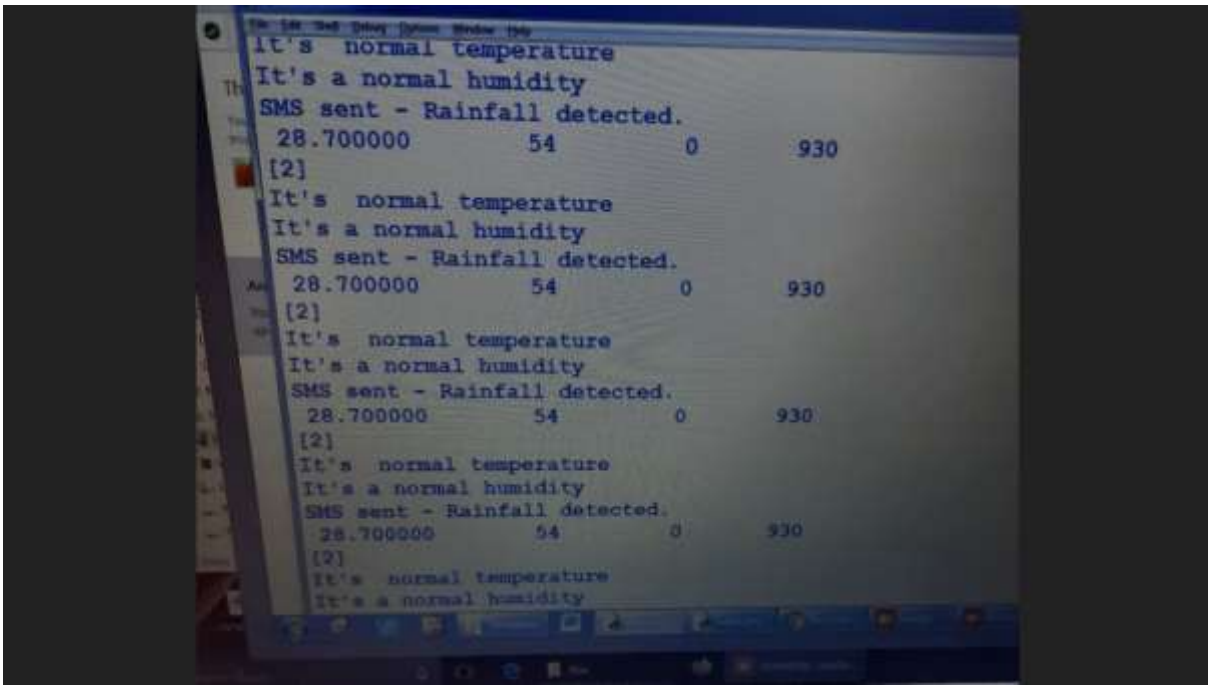

Fig-2

IV. CONCLUSION

Nowadays farmer are using manual method.because of this they are facing lot's of problem. By considering their problems, thissolution is good for farmer.It is need of farmer.By using this Farmer will saves money as well astime.It is also profitable for nation.

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