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Smart Agriculture System with ChatBot

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ABSTRACT: - To study crop recommendation fertilization as per the weather condition of the rural farmers as the main in our country, the paper took towns and villages of Hua County as the study area, took recommendation fertilization of wheat, maize and peanut as the study object, designed model components of crop balance fertilization by using Object-Oriented technique, and developed the decision-making system about crop recommendation fertilization based on ArcGIS Server at village scale. The decision-making system realized farmland nutrient management and fertilization recommendations decision-making according to soil output capacity, agricultural production level and crop target yield. It was successfully applied in crop production in Hua County. The research results show that the system has the characteristic of better expansibility than before, and it is significantly simple and practical to reduce crop production cost and increase agricultural production efficiency, which provides technical support for crop fertilization decision-making and is significant to improve agricultural ecological environment and increase the comprehensive production capacity of farmland.

I. INTRODUCTION

In this project, input will be given which are tested using weather data values. The system will work in three stages: the first stage is testing stage where we are us- ing dataset and different API values. Second stage is training the past dataset and creating the model. Third Stage is actual predicting the crop yield. Data Mining is a process of extracting hidden information from a database and transforms it into an understandable structure for further use. It is the computational process of discovering patterns in large data sets involving methods at the intersection of artificial intelligence, machine learning, statistics, and database systems. The ultimate goal of data mining is prediction and predictive data mining is the most common type of data mining and one that has the most direct business applications. Throughout the years, many algorithms were created to extract knowledge from large sets of data. There are several different methodologies to approach this problem: classification, association rule, clustering, etc. Here we will focus on classification methodology. Classification techniques are designed for classifying unknown samples using information provided by a set of classified samples. This set is usually referred to as a training set, because, in general, it is used to train the classification technique how to perform its classification. The classification task can be seen as a supervised technique where each instance belongs to a class, which is indicated by the value of a special goal attribute or simply the class attributes. Classification routines with data mining use a variety of algorithms and the particular algorithm used can affect the way records are classified. This work talks about Decision Tree classifier assumes that the presence (or absence) of a particular feature of a class is unrelated to the presence (or absence) of any other feature. Depending on the precise nature of the probability model, K Nearest Neighbor (kNN) and Density based clustering can be trained very efficiently in a supervised learning setting.

II. MODULE IDENTIFICATION

The proposed system developed as per the recommendation of crop as per area, suggestion crop with cultivation process prediction of crop disease and its process as well as fertilizers and prediction and this system also recommends the nearby fertilizer shop and agro-equipment. One of the most important tasks in agricultural is to turn the soil and loosen it. This allows the roots to penetrate deep into the crop recommendation system. These organisms are friends of the farmer since they further

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turn and loose the soil and add humus to it.Here we are using sensors values like soil moisture sensor, temp sensor, humidity.

In this work the experiments are performed two important and well known classification algorithms KNearest Neighbor (NN)and Density based clustering are applied to the dataset. There accuracy is obtained by evaluating the datasets.

III. OBJECTIVE

- To make better use of Information Technology in forecasting the crops.
- To help farmers to improve decision making quality.
- To suggest farmers to get high yield crops.
- To extract the information from a dataset and transform it into understandable structure forfurther use.

IV. LITERATURE SURVEY

1. IOT in Precision Agriculture Applications Using Wireless Moisture Sensor Network.

- Wireless sensor network (WSN) and Wireless Moisture Sensor Network (WMSN) are components of IOT.
- Proper Irrigation system could be achieved by using WSN Technology.
- Monitoring and control applications have been tremendously improved by using WSN Technology.
- It enabled efficient communication with many sensors. WMSN is a WSN withmoisture sensors.

2. An Extensible Software Platform for Cloud-based Decision Support and Automationin Precision Agriculture.

- The precision agriculture is a decision support system (DSS) that acquires data from varioussources, analyzes them, and recommends actions.
- DSS to control various field devices through unified software defined interfaces.

3. An Intelligent Web-Based Voice Chatbot.

This paper presents the design and development of an intelligent voice recognition chat bot. The paper presents a technology demonstrator to verify a proposed framework required to support such a bot(a web service).While a black box approach is used, by controlling the communication structure, to and from the web-service, the web -service allows all types of clients to communicate to the server, from any platform.

The service provided is accessible through a generated interface which allows for seamless.

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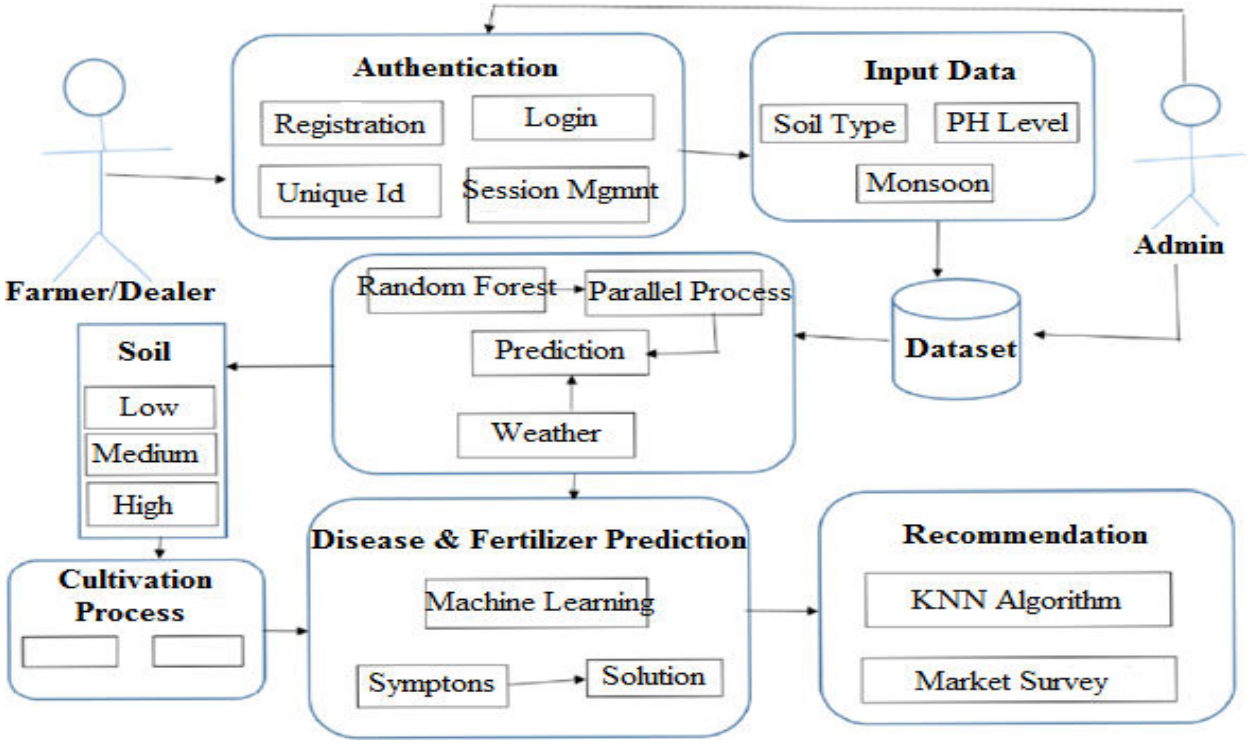
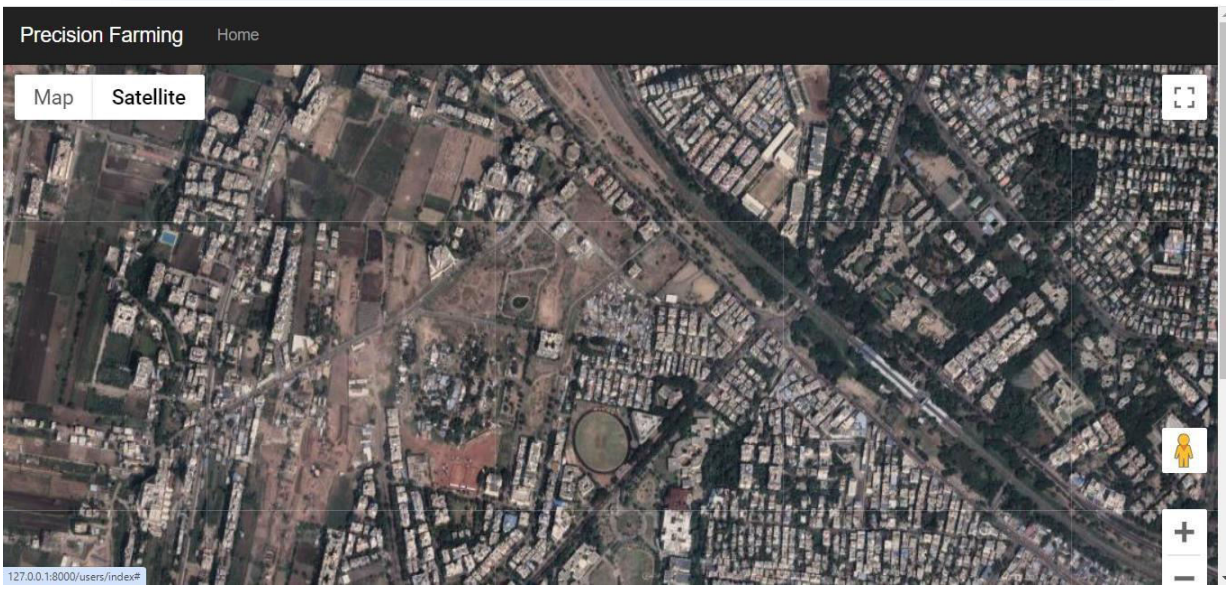
V. SYSTEM ARCHITECTURE



VI. SYSTEM IMPLEMENTATION

Login Screen:



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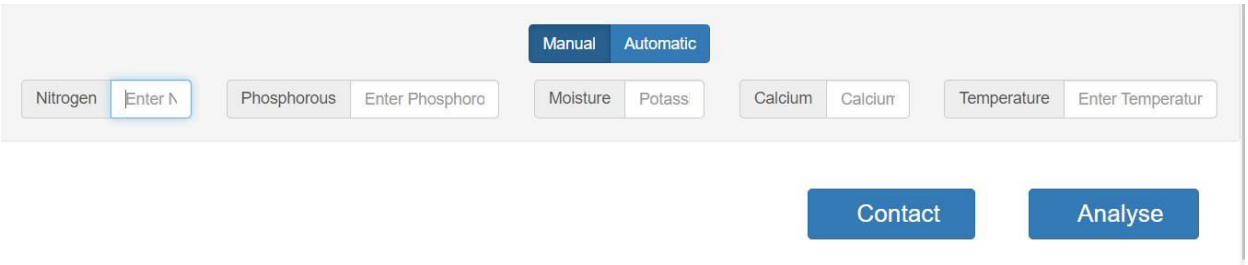
Soil Value



VII. CONCLUSION

The proposed system in this paper is designed by considering the requirement of a sugarcane crop for Indian climatic conditions. The WSN in agriculture is new technology for information acquisition and processing in sugarcane field. It is more advantageous than the traditional agriculture techniques. This work structured the precision agriculture monitoring system by wireless sensor nodes and base station torecord the data of sensor nodes. This is low cost system where the recorded information is transmitted toremote location using a GSM network via a SMS.

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