Digital Farming Using Data Analysis

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***Abstract*: Digital farming can be defined as the use of technology by farmers to integrate financial and field level records for complete farm activity management. Digital farming is applying precision location methods and decision quality agronomic information to illuminate, predict, and affect the continuum of cultivation issues across the farm. The main focus of our project is inclined towards the minimal utilization of time and maximum output. The moto is to introduce farmers to show how traditional things can be done in digitalized ways within fraction of seconds, about 88livelihood. Most of this population comprises small holders, and poverty is widespread. The Agriculture Perspective Plan (APP) formulated in 1995 considers agricultural growth as the key to poverty reduction. The APP stressed the need to diversify agricultural production on the basis of geographical location and commercialization of agro-products. The Ninth Five-Year Plan (1996-2001) also saw the start of the 20-year APP and drew upon its strategies. The 1990s also saw changes in government policy, with reforms moving the economy towards a more market-oriented system. The second major change that has affected the agricultural system over the past decade is the move towards decentralization, with the Self-Governance Act 1999, providing for greater devolution of power to the local government. An increased emphasis on participation and on partnerships between the public sector and other service providers has been embodied in the formulation of recent projects in the agriculture sector. As a result of the impetus given by the APP and these policy changes, growth in the agriculture sector has accelerated during the 1990s, although it is still short of the APP target of 2growth per capita.**

***Keywords*: React Js , Python , Detection , Machine Learning system.**

I. INTRODUCTION

The present project deals with smart farming system, which would allow farmers access to live data such as temperature, humidity, and soil moister. The report is structured as follows: The first is a general knowledge about the technology and the project's topic. The second contains the steeple analysis, feasibility study, project's requirements, specifications, methodology used, project's design process, implementation, components and technologies used, developed algorithms, the future scope and conclusions

II. MOTIVATION

Digital Farming application is basically for sustainable development of farmers. Many times, farmer is confused to take decision regarding selection of fertilizer, pesticide and time to do particular farming actions. So, this Digital Farming is very useful. Fertilizer schedule of each type of crop will get registered. The spark of 21st century to that 70 population who are land worshiper.

III. PROBLEM DEFINATION

To be concentrated on bringing the modern agricultural techniques to the remote farmers. The relentlessly increasing importance and application of Information Technologies (ITs) in Digital farming have given birth to a new field called Digital Farming, which focus on improving agricultural and rural development through a variety of technologies, It is also need complex algorithm to be developed by the developer

IV. LITERATURE SURVEY

This chapter contains the existing and established theory and research in this report range.This will give a context for work which is to be done. This will explain the depth of the system. Review of literature gives a clearness and better understanding of the exploration/venture. A literature survey represents a study of previously existing material on the topic of the report. This literature survey will logically explain this system.

1. O JiHye; Dong-Hee Noh; Young-Ho Sohn [1], With world population growth, increasing agricultural production with a declining agricultural workforce has brought a new spotlight on agricultural ICT. As the cultivable land in South Korea is relatively small, farmers prefer the high productivity of greenhouse cultivation. In this case, labor efficiency can be achieved by developing an integrated smart platform to collect environmental information and control the greenhouse facility. This requires the construction

of a network to transfer the sensed information to the control server and transfer commands from the control server to the control device. When installing a Wi-Fi communication network inside a greenhouse, verifying the communication stability is crucial. Therefore, this study measured the wireless communication transmission/ reception ratio and confirmed that the communication distance varied according to the crop density.

2. Harshkumar Prakashbhai Thakor; Sailesh Iyer [2], Farming is the term related to the agriculture sector, which is considered one of the most vital sectors for the endurance of mankind. Farmers are the ones who are in this livelihood of farming. Farming has not proved lucrative for the small farmers as there are commission agents who earn much more than what the farmers do. This paper discusses various models employed in Farming and proposes Smart Digi-farming models which focus on farming using IoT (Internet of Things), Mobile application for the dissemination of farming and commercial information and online sale of produce. Training on the latest fertilizers, farming tools and digitization in agriculture will attract youth towards farming and making India self-sufficient in food grains. Happiness Index of farmers is measured and improved through this model which drives the farmers away from suicidal tendencies and ushers in confidence, productivity and changes the lifestyle of the farmer.

3. Soontharee Koompairojn; Chakrit Puitrakul; Thailand Bangkok; Nattawat Riyagoon; Somchoke Ruengittinun [3], The problem of the outdoor farming of livestock are losing of the livestock or be stolen. Owing to such problem, we hereby study, research and develop a Smart Tag for livestock farming or STLiF. In this research, there are three processes: system design, implementation of STLiF, and testing. In the first step, we design the Smart Tag by assembling IoT (Internet of Thing) devices (GPS, 3G, and Arduino) within the livestock Tag. The GPS Module receive a value of a position from the nearest satellites. The 3G Module SIM are used for sending data to Database Server by 3G signal. The Arduino Microcontroller board are used as a controller. Then an applications on smartphone gets the data from Database Server, analyzes and indicates results. Our application can track the latest position of Livestock, show its position with Smart Tag's position, history of its movement in specific period, and then warn us when it gets out of the allowed area. The values mentioned in this research comprise latitude, longitude, date time, and the ID of Smart Tag. Finally we evaluate the Smart Tag by to testing with goat at a farm in order to make sure that Smart Tag work properly.

4. Tharindu Madushan Bandara; Wanninayaka Mudiyanselage; Mansoor Raza [4] ,Internet of things (IoT) gives a new proportion of smart farming and agriculture territory. Because with the development of the current world, the internet of things field has peaked with modern technology and modern techniques. In the modern world, IoTvis used in every domain like smart city, smart university, smart car park system, etc. This paper is about the implementation of the smart farm. IoT concept helps in costefficient farming activities like crop and other resource management. With a wireless sensor network, it is easy to connect with every sensor node placed in the farming environment. Also, with the wireless sensor network, it can connect with long-distance ranges. With the help of a sensor network, it can collect the data from the farming environment and analyze it according to the pre-defined values. The proposed system used IoT sensors to collect the data are soil moisture sensors, temperature sensors, water volume sensors, etc. According to the existing system analysis, the proposed solution contains a smart farm environment and a real-time monitoring system with the wireless sensor network for node connectivity. The proposed system provides a more reliable and flexible smart concept for the farmers, and it is a simple architecture that contains the IoT sensors that collect the data from the farm field and transfer those data through wireless sensor network to the central server and according to the input data, the primary server assigning the task to the particular devices..

V. PROPOSED SYSTEM

The basic goal of our system is give All farming related services to farmer in our website .In our , system sort the basic need about Digital farming . In day todays life farmer facing some issue about farming information and knowledge so our system give all services in one server. First thing our system give verification of our account they are create in our server , with using help of mobile OTP generation method .

Basically our system show flexibility about function of farming .In our digitl life lot of things are global so our needy farmer update by time so this sytem help to farmer to identify new technology about Digital farming .This system give weather report day by day ,them give info about cropping. Find landmark our land using 7/12 webiste. we present a holistic agricultural monitoring system, its design, and its architectural implementation . The climate change and the increasing demand of food pose serious challenges to modern Digital farming. Since the basis of the IoT chain from crops to farmers is sensor-based data gathering, sensor devices and their in-situ deployment is fundamental for the success of Smart Farming. Such devices range from small, low-cost, and resource constrained sensors to complex high-accuracy sensor platforms that could be very expensive.

VI. SYSTEM ARCHITECTURE

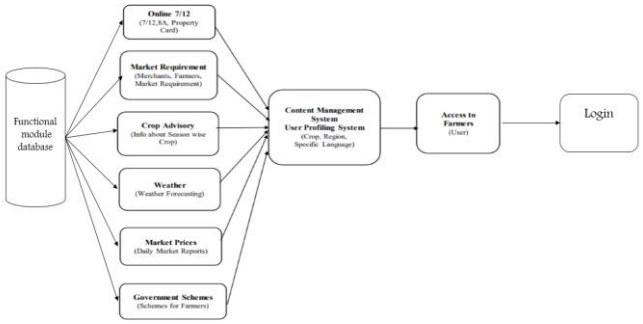

Fig -1: System Architecture Diagram

VII. ADVANTAGES

• Digital farming using data analysis is an farming management website
• It is provide management to those farmers for managing farming like planning, monitoring, tracking and analyzing all farming activities.
• It is easy to handle for new farmers because of simple UI.
• It is easy verification of data analyzing for farmers.

VIII. LIMITATIONS

- Internet Connection necessary
- Proper Dataset

IX. APPLICATIONS

- Personal
- Research
- Farmers Research
- Government of India
- Merchants

X. CONCLUSION

AIn this way we are going to manage Daily Market requirement of crops and also use integrated farming to sustainable development of Farmers,This capstone project gave me the chance to learn new technologies and work with new tools, this was a real proof that AUI has taught us to be long-life learners and to master self learning before teaching us other class materials. Of course, this project is a combination of what I learned from all my computer science classes, the programming languages, the database systems and the engineering process that is important in any engineering project, all together with what I learned from other disciplines and also by myself about IoT and the use of Arduino helped me to build an embedded system. In general, the project was successful and worked properly and succeeded in delivering the prototype on due time. I am proud and happy for this achievement especially that this is my first real big theoretical and practical project.
It enabled me to get concrete results and to realize that I can indeed build products that would be beneficial in real life and that I can customized upon demand as future projects.

FUTURE WORK:
Indian computerized cultivating as of now faces distinctive test and new limitation due to over developing populace and expanding need of food. The current process for cultivating give parcel administrations and offices to ranchers when required. With use part of site sources .this source give data about cultivating like climate report, seed data , which yield is appropriate for which condition and so on In our innovation give all information about agribusiness to need of rancher help of site. Then, at that point, all administration conspire identified with composer accessible in various framework , rancher follow all data about plans however rancher are befuddled on the grounds that parcel conspire are there yet which plan are valuable for his it huge issue. The advancement underway or consistent development In yield are confronting challenge presented by present monetary , world of politics

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