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A Multi-Purpose Agriculture System Based On IOT

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ABSTRACT: *In this paper, it is to perform activities like programmed watering, animal checking, and pesticide showering. It likewise gives manual control when required and monitors the stickiness with the moistness sensors. The Arduino controller is used for controlling which the robot works the whole field and continues to furrowing, and also apportioning seeds one next to another simultaneously. The gadget utilized for the route is a vibration sensor that constantly sent data to the controller. So that the system is automatic and outside is manual. An Internet of Thighs (IOT) is used to control utilized for the whole process. The water sprinklers, if on, cut down the stickiness level, subsequently giving an ideal developing climate to edit.*

I. INTRODUCTION

The IOT is the latest technology that is invented for the easiness of the society that is supported for agriculture field. This system allows the farmers to remotely monitor soil moisture and crop growth levels, animal behavior, storage conditions, and energy consumption continuously.

In India, agriculture is an essential occupation, and the range of human beings pursuing it as their career is high. Technology is developing with generations, and the villages are being transformed into city regions, and in turn, the farmer's population is getting reduced, and also the number of labor which used to assist the farmers in farming are decreased, and so in this example, there is a necessity for a brand new generation to play an important position in making the farming a better and less complicated profession. Robotic technology is one such which can be used in extraordinary operations of farming like seed sowing, plowing, and other obligations as nicely and decreases the necessity of human labor

II. RELATED WORK

In this section, the related work of the paper is discussed, which is gathered from the different researcher's work that is given below.

Puranik et al. have resolved the issue utilizing IoT and computerization, which can oversee the majority of the horticultural work, and the ranchers can plan which harvests to develop as indicated by the market.

Dholu et al. propose the utilization of cloud-based IoT in the horticulture area. Exactness agribusiness is essentially an idea which demands to give the perfect measure of assets at and for a definite span of time. These assets can be many things such as water, light, pesticides, and so forth

Heble et al. have proposed and implemented a low-power IoT network for smart agriculture

Krongthong et al. have proposed a smart system using IOT for agriculture.

Khattab et al. have presented an IoT design modified for exactness farming applications. The proposed three-layer design gathers the required information and transfers it to a cloud-based back-end where it is handled and dissected.

III. PROPOSED SYSTEM

In this section, the proposed systems are described with the corresponding block and description. It deals with robotic development in the field of agriculture. This system includes harvesting, ploughing, digging, and seeding. It is totally automatic that reduces manual work. Due to the robot work, the many tasks are not needed to be repeatedly corrected.

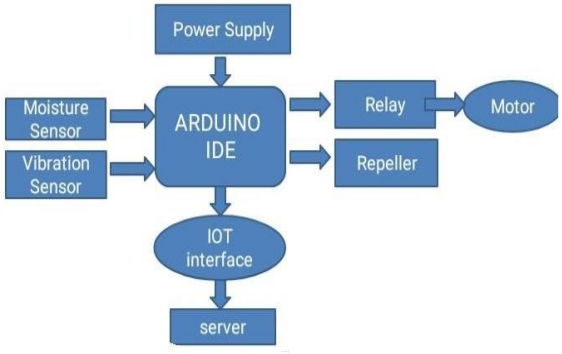

Figure 1 Proposed system

In figure 1, the proposed system is given. These systems are performing operations an automatic ploughing, pesticide spraying, and seed dispensing. Sometimes the manual operations are also required if possible. In this system, Arduino is used as a controller, which consists of a moisture and vibration sensor as an input. This system works automatically with the support of an IOT. The Remote controller is controlled manually with the support of navigation in the agriculture field.

IV. RESULT & DISCUSSION

In this section, the experimental result based on automatic water irrigation and pesticides spraying using IOT is given and repel the animals.

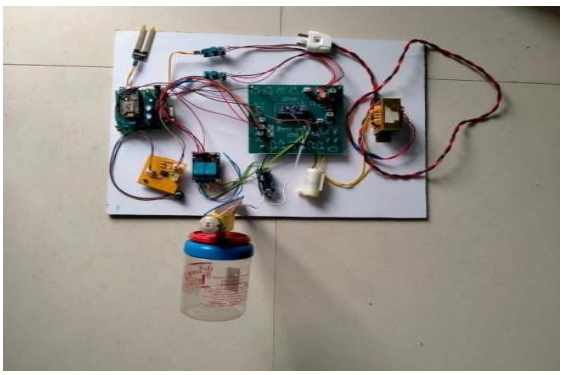

Figure 2 Implementation results

This includes a DC motor, communication module, relay driver, microcontroller, and Battery. If the motor is turned ON, the vehicle started to move ploughed land. This motion is controlled by the remote device.

V. CONCLUSION

This paper presented an IOT based smart agriculture management system. This system is more convenient for the farmer for seed sowing and ploughing the field. This vehicle is fully monitored using an IOT. This motion can be controlled manually. It is so flexible for water flow and fertilizer. It is so efficient, simple, user-friendly, and low cost. This system is eco-friendly in nature.

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