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Two Sided Seed Sowing Machine

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Abstract

Agriculture is main occupation in India.70% population to live in village. In agriculture field there are many machines and equipment are used. There are different type of traditional method are used in the village. Traditional method of sowing seeds is very bulky. The farmer has to sow the seeds are manually, this is very time to spend this process and also the wastage of seeds. More man power required. In this method this system is very much beneficial to all farmers because the wastage of seeds and more man power are avoided for that system. Also the time to be saves. All facilities to be provide. In seed sowing machine system they are used battery powered wheels. In this system seed storage tank are used .when the seeds are empty it detect the level of storage seed and indicate the alarm as well as obstacle are avoided. In each complete rotation seeds are fall in drum and seed sow very easily. This system is based on Bluetooth Robot App.

Keywords: Aurdino,In-built DC motor wheel,Indication Unit,Limit Switch

I. INTRODUCTION

In this project work they have focused on seed sowing process and tried to solve the problem. The design and fabrication of a manually operated single-row Seed planter

that is cheap, easily use by the rural farmers.In this system they have used battery operated wheel.when any obstacle comes in front of machine automatically motor will be off.when seed are emty it create an alaram.This overall system is depend on remote based as well as one man can easily handel this system is very easily.So its benificial to farmers also time to be save

Researcher have developed multipurpose sowing machine. The system is designed for small farmers to improve their productivity. In this machine a common seed storage place is introduced to reduce the cost of the machine. The existing sowing machine has the individual storage place and separate seed metering mechanism. It is simple in operation. No seed loss in terms of remaining in the hopper. It is more suitable for small the farmers. [1]

Researchers have developed command based digging and seed sowing rover. The sensor guided rover for digging, precise seed positioning and sowing has been proposed to reduce the human effort. The rover's navigation is performed by remote guiding devices fortified with the positioning system. Ultrasonic sensors are used to detect obstacles present in the pathway and it maps alternative route for smoother navigation. The rover is steered by high torque DC motor fitted with the available rotating seed storage hopper and digging tool. It is very useful for the farmers. [2]

Researchers have developed solar operated agrobot.The system is depending on solar energy. Solar operated automatic seed sowing machine. The system is very useful to digging, seed sowing, water pouring and fertilizing by using nonconventional energy sources. The solar operated automatic seed sowing machine. It can easily help to the farmers. And at the same time by using solar energy environment pollution can also be reduced. Also save the revenue of government & also most demanded fossil fuel. [3]

Researchers have presented a paper on autonomous navigation in agricultural environments .Also the obstacle detection system to operate in field scenarios which can accurately distinguish large and small vegetation from other types of obstacle. Algorithm is composed by three steps: (i) obstacle detection based on geometric information ;(ii)clustering of detected obstacle ;(iii) filtering false positive detections using Bayesian classifiers. Some trials have carried out in citrus plantations. And from the observations it recognizes obstacles and classifies them as people, bushes, animals and grass of different heights. [4]

An author has presented the precision agriculture system. Robot vehicle has been fabricated with material and dimension .The microcontroller is used to control, monitor and change the direction of robot. Ultrasonic sensor detect obstacle present in path of the robot vehicle. The system is very useful to unskilled farmers. [5]

II. SYSTEM BLOCK DIAGRAM

The fig.1. shows that system block daigram of seed sowing machine.

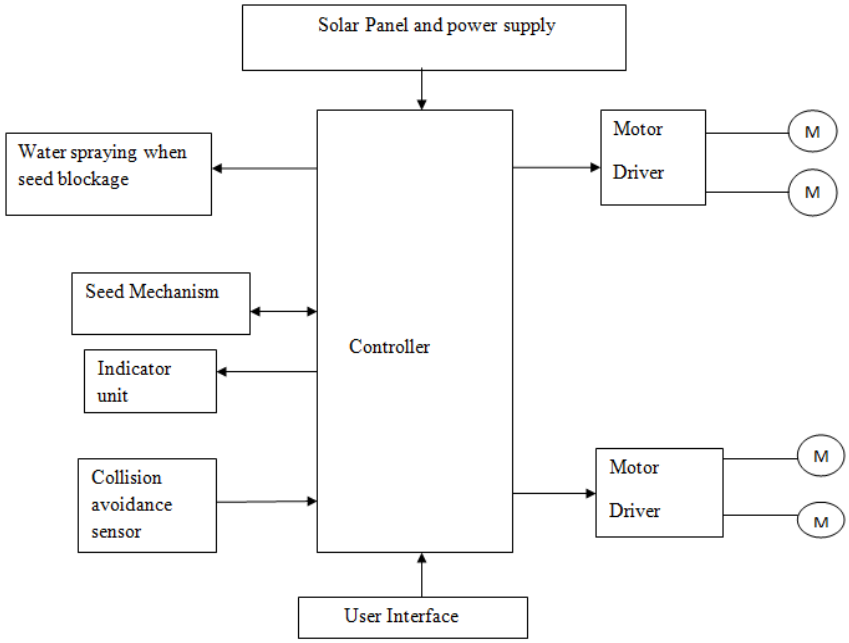

Fig 1. System Block Diagram

In this system block diagram they have developed seed sowing machine. They provide more facilities to farmer and the farmer can easily used this type of system. It developed four wheel robot machines. In this seed sowing machine they have used battery operated wheel. In this system the seed sowing process is automatic. In seed storage tank when seed are empty it indicates a buzzer. Also the any obstacle come in front of seed sowing machine the motor is automatically off.

III. DEVELOPED OF SEED SOWING MACHINE

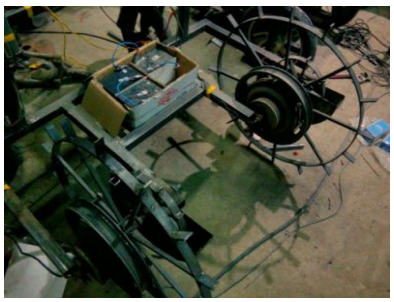

Fig.2. Seed sowing machine

The fig.2. shows that developed of seed sowing machine .This is two sided seed sowing machine.when seeds are fall in drum the seed sowing process very easily.the farmer sow the seed easily.

1.seed tank:-

The Fig.3 shows that seed storage tank. Inside this drum they can pour the seeds for sowing operation. Bottom of this seed tank there is seed sowing disc arrangement. In this seed tank seed are filled. When seeds are empty it create an buzzer.

Fig.3. Seed tank

2. Seed bucket:-

This seed bucket when seed fall from seed tank to seed drum .Each complet rotation of roating wheel seed fall in seed drum seed sowing process is easily.this seed sowing bucket fillted on seed sowing disc.

Fig.4. Seed bucket

3. In built dc motor wheel:-

The rotating wheels are developed, the fig.5. Shows that the inbuilt dc motor wheel. The both wheels are powered by battery.as well as the,

The motor specifications are

Power- 1100watt, DC power-48V, current- 7amp

Fig.5. In built dc motor wheel

IV. HARDWARE IMPLEMENTATION

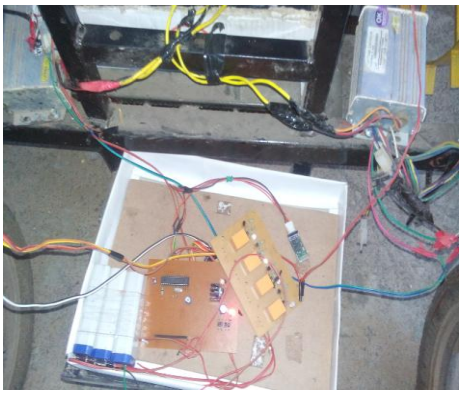

Fig.6. Circuit for agriculture Robotic system

This fig.6.shows the circuit of agriculture Robotic system .this circuit is used Ic Atmega 328. Atmega 328 controller is selected. The Atmega 328 is selected mainly because it has 14 digital Input / output pins.6 PWM output pins. The Atmega 328 IC having high performance, low power. Relays are one of the most important components in electronic circuits. Especially in circuits where high power transfer or mains AC load switching is involved, relays play the major role in implementing the operations.

V. RESULTS AND CONCLUSION

Results-

1. Design and Developed for seed sowing mechanism:-

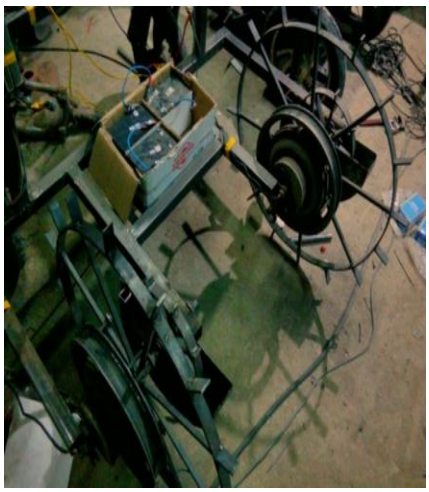

Fig.7. Two sided seed sowing machine

2. Collision Avoidance Sensor-

Fig.8. Collision Avoidance Sensor

The fig.8. shows that the any object comes in front of machine the ultrasonic sensor can be detect that object and indicate the alaram.Also the object can detect automatically motor is off.

3. Seed Sowing Disc:-

In seed sowing Disc the complete rotation of the rotating wheel seed fall from the drum and seed sowing process very easily and smoothly.

Fig.9. Seed sowing Drum

4. Bluetooth Robo App-

The Hole system is controlled On the Bluetooth Robo App.

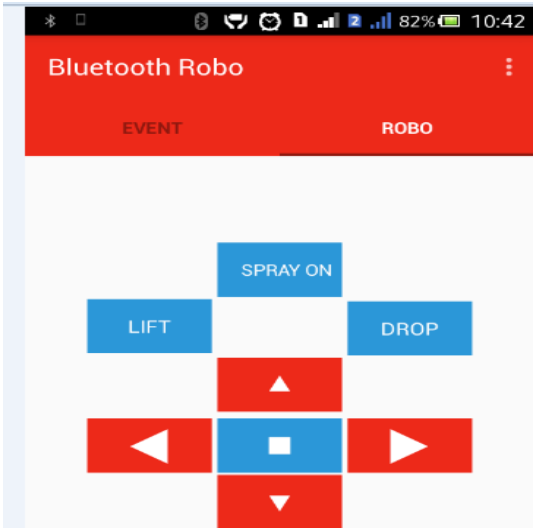

Fig.10. Bluetooth Robo App

CONCLUSION

It conclude that the hole system is controlled on Bluetooth Robo app. when Machine goes on Forward the motor is on. In seed sowing Disc the complete rotation of the rotating wheel seed fall from the drum and seed sowing process very easily and smoothly. Also the any object comes in front of machine the ultrasonic sensor can detect these obstacles and indicate the alarms well as motor will be stop. So the farmer can handle this machine very smoothly .The one man can handle these machine easily. Man power will be less and time to be save.

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