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AGRICULTURE MULTI FUNCTION MACHINE

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ABSTRACT : The E-Vehicle For Agriculture Remote operated In order to avoid various problems which affect agricultural fields, agricultural electrical vehicle is needed, to fulfill the objectives like weed detection, irrigation, crop protection and Bug Spray. This the design aspects of electric vehicle which is eco-friendly in nature and automated. The various technologies used are sensor technology . The designed EV not only uses battery power but also uses renewable energy in order to perform all its operations. The proposed model is cost effective and reliable, also suitable for linear agricultural applications. The electrical vehicle plays a major role in precision farming, which is to improve the efficiency of crop production without influencing the different agriculture variables and reducing production costs. The proposed EV model is intended to cater the needs of agricultural requirements such as crop protection, irrigation, bug spray (i.e. spraying pesticides) with obstacle detecting feature. The model is of self-power for checking soil moisture to start the watering of the field or Motor turn off function. The delta robot incorporated to pluck the weed in the field, it has a clearance of 10 cm from ground level does the activity.

INTRODUCTION

. Robotics is a fascinating subject- more so, if you have to fabricate a robot yourself. The field of robotics encompasses a number of engineering disciplines such as electronics (including electrical), structural, pneumatics and mechanical.

The structural part involves use of frames, beams, linkages, axles, etc. the mechanical parts/ accessories comprise various types of gears (spurs, crowns, bevels, worms and differential gear systems), pulleys and belts, drive systems(differentials, castors, wheels and steering) etc. The pneumatics plays a vital role in generating specific pushing and pulling movements such as those simulating arms or leg movement. Pneumatic grippers are also used with advantage in robotics because of their simplicity and cost effectivenessThe electrical items include DC and Stepper motors, actuators, electrical grips, clutches and their control. The electronic parts involves remote control, sensors (touch sensors, light sensor, collision sensor, etc), there interface circuitry and a microcontroller for overall control functions.

NEED OF THE STUDY.

- It improve the efficiency of crop production without influencing the different agriculture variable and reducing production cost.
- The vitality from the network which used if all else fails and during off top occasions.
- For farming vehicles an electric vehicles are either charged by solar.
- Electric vehicles give easy way to replace the old vehicle with less maintenance.
- Reducing environmental impacts and the dependency on fossil fuels are considered as important issues in energy policies globally.

The researchers developed autonomous technologies to help with working in an agricultural field.

The automation in the agriculture could help farmers to reduce their efforts. The vehicles are being developed for the processes for Ploughing, seed sowing, Grass cutter, Sprinkler. All of these functions have not yet performed using a single vehicle. In this the robots are developed to concentrate in an efficient manner and also it is expected to perform the operations autonomously. This idea implements the vehicle to perform the functions such as ploughing, seed sowing, grass cutting and water spraying. Energy required for this machine is less as compared with tractors and agricultural instrument pollution is also a big problem which is eliminated by using solar plate. As there are no efficient equipment's to aid the farmers.

RESEARCH METHODOLOGY

Powerful fast charging battery is used and it is very long life and long time usage Multiple tasks done by one electric vehicle. Most powerful and efficient converters and hence the output result will be more accurate. Entire system are connected and controlled by central control unit using micro-controller. Hence it is easier to operate any single part of the system in smart ways.

Ease of service

Virtually silent operation

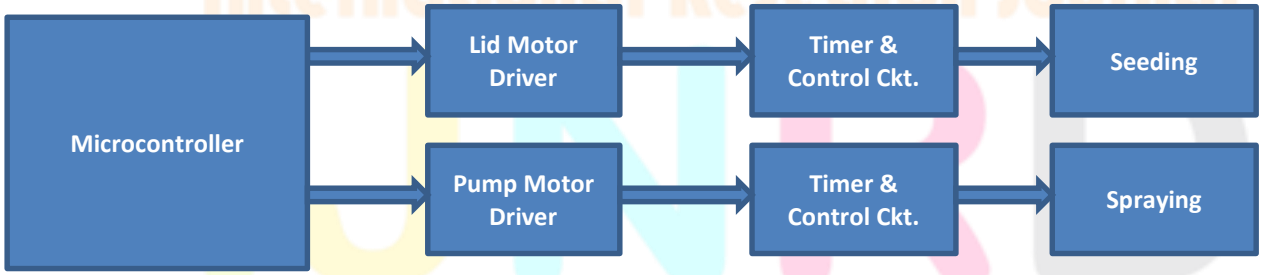
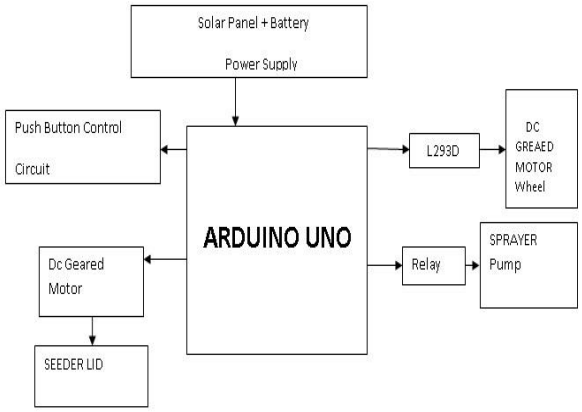


Fig3 .1 Block diagram

We all know "the best planning leads to the best results". So when we finalized our project it was a question from where to start? There are many directions but we had to choose the right one. This was starting the step of our project.

The first event we did was to go through many books, discussion, meeting, consultations & suggestions, satisfying the basic needs of client. After hard working we designed our circuit.

Now next task was procurement of material for that we listed first the required parts & divided our team in four parts. The work was equally divided. As our project is hardware & software based so two of us were worked for software & other two were worked for hardware.



Conclusion

Multipurpose farming robot has effectively actualized and tried for operations like ploughing,. An underlying result of this examination shows that the greater part of these frameworks that work with self-governing, are more adaptable than customary frameworks. The upsides of multipurpose horticultural robots are lessening human intercession, guaranteeing appropriate water system and proficient use of assets. In future, It can be reached out by utilizing ultrasonic sensors and cameras for playing out similar activities without human administrator for estimating the different parameters like soil condition, region secured by the robot and leveling.

Scope for Future Work

The future developments of Robots can be found in various places. The major among them is in the field of: Development is going in the field of artificial intelligence. This will invoke thinking in Robots which in future will help Man kind in problem solving. Development is going on in the field of nano system which deals with implanting of small chips into human body for early detection of diseases. This can also help in locating a person by GPS technology.

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