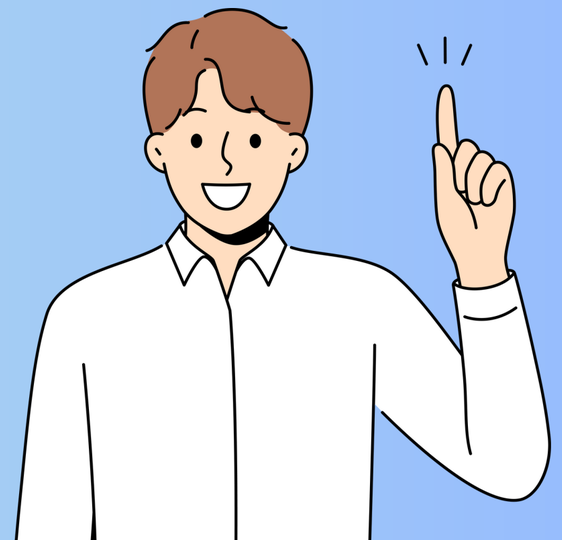
Solar Powered Seed Sowing Machine



TEAM MEMBERS:-

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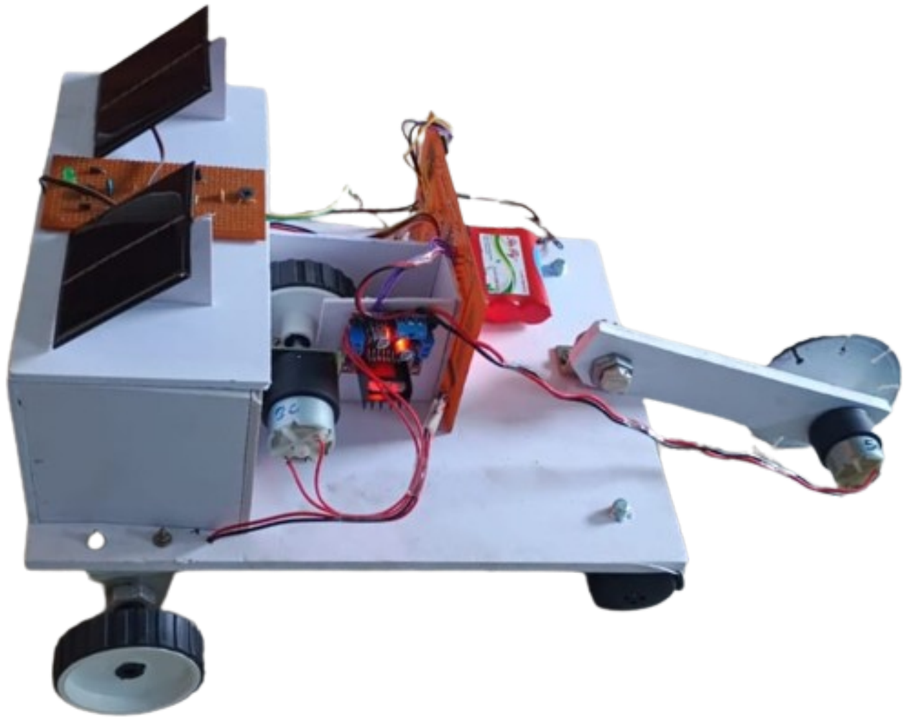
Problem Statement

- IN TRADITIONAL AGRICULTURAL PRACTICES, THE PROCESS OF SEED SOWING IS OFTEN LABOUR INTENSIVE AND TIME-CONSUMING.
- FARMERS FACE CHALLENGES IN ACHIEVING UNIFORM SEED DISTRIBUTION.

Solution:

TO OVERCOME THE SEED PLANTING PROBLEM THERE IS NEED TO DEVELOP THE SEED SOWING MACHINE WHICH CAN BE IMPLEMENTED FOR ALL TYPES OF CROPS , MINIMIZE THE WORKING COST, TIME FOR DIGGING OPERATION ON CLEAN ENERGY.



About us

Farmers should use latest technological advancements for the various agricultural practices like digging, sowing, irrigation etc. The main work of sowing operation is to sow seeds at required depth with specific spacing between the two sowed seeds. This can be achieved with the help of seed sowing machine which will dig the furrow and sow the seeds with cultivator. After the seeds being placed in the furrow land, it will cover the sowed seeds with soil. Seed sowing machine saves time and labour requirement, thus saving a lot of money along with the assurance of proper seed broadcasting.

Questions asked by designer to stakeholders (Farmers):

1)For what purpose do you want to use this device?
2)How do you want the device to be?
3)How big do you want this device to be?
4)Under what condition do you want this device to work?
5)What should be the budget?

6)What type of user do you have?

7)What additional feature do you want in this device?

8)How semi-automatic / automatic the device should be?

9)What type of electricity supply do you want in your device?

10)What should be age group which will use this device?

Responses

1)We want this device for sowing purpose.
2)This device should be capable for sowing seeds.
3)Size should be 16inch x 14inch.
4)This device should be durable and easy to use.
5)Cost should be 8000.

6)This device will be mainly used by farmers.

7)We want extra feature for spraying pesticides and water

8)We want this device should be semi-automatic.

9)I want solar panel for electricity purpose.

10)This device is used by 15 -60 year person.

Our History

01

SOLAR SEED SOWING MACHINE(2016)

NITAVE RANJIT VILAS
JAGTAP POOJA NARAYAN

02

SOLAR POWERED SEED SOWING MACHINE(2018)

KALASH SINGHAL
GAURAV PRAJAPATI

03

AUTOMATIC SOLAR SEED SOWING MACHINE(2020)

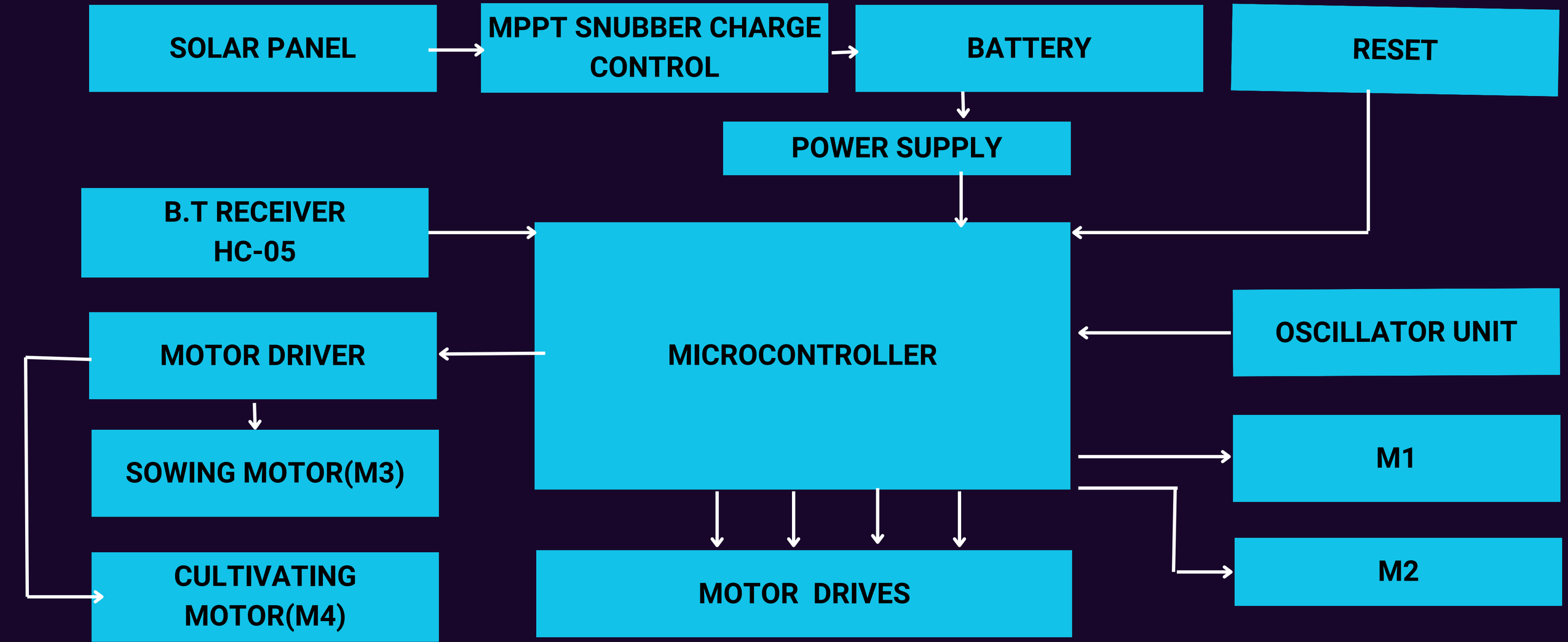
GIRISH
KARTHIK

04

SOLAR OPERATED SEED SOWING MACHINE(2021)

SHARVIL JOGLEKAR
AKHILESH DESAI
VEDANT BHIRUD

BLOCK DIAGRAM



WORKING

- The seed sowing machine is controlled by MCU (micro controller unit).
- The seed sowing machine which contains the solar panel which collects the solar power and it is given to the charge controller then to the battery (12v). The battery is used to save the power.
- The DC motor is used for this machine and the power to DC motor is given by battery and DC motor is connected to the rear wheel of the machine using transmission system.
- The main part is IR sensor which is used track the path of the moving machine and the IR sensor is controlled by the MCU.
- The seed is sowing is controlled by the revolution of the wheel for example (one seed for one revolution). This machine will dig the soil and sow the seed and cover the soil after sowing the seed.

Features

- Our product having a removable cultivator which can be easily replace by cutter.
- We are also having a container which will use to spraying water and pesticides on crops.
- Our product having a rotatory wheel which will store seeds and also it will sow that seeds on furrow.

REFERENCES

- https://www.researchgate.net/publication/318988073_SOLAR_SEED_SOWING_MACHINE
- https://www.researchgate.net/publication/342656182_Solar_Powered_Seed_Sowing_Machine
- https://www.researchgate.net/publication/346253025_Design_and_Fabrication_of_Automatic_Solar_Seed_Sowing_Machine
- https://www.irjet.net/archives/V8/i2/ IRJET-V8I209.pdf