

CS449 - Internet of Things Project

GRASSCAPE: IoT Based Lawn Mower

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ABSTRACT

The importance of lawn care cannot be ignored, as your lawn contributes to your house's beauty. Therefore, it needs maintenance regularly. A lawn mower is a device used to cut a lawn's grass to an even height. It can be operated manually or by some energy conversions such as solar power, battery power, etc. Generally, these are powered by an electric motor or internal combustion engine and dc motors. In this project, an effort has been made to modify the old mower to improve its usability. The overall geometry is made smaller and lighter.

COMPONENTS REQUIRED

- Arduino UNO
- HC – 05 Bluetooth Module
- L298 Motor Driver Module
- Jumper Wires
- Wires
- Batteries
- Wheels
- Car Chasis
- Blade
- DC Motors

REFERENCES

<https://www.pcmag.com/picks/the-best-robot-lawn-mowers>

<https://www.ijraset.com/research-paper/bluetooth-controlled-solar-grass-cutter-using-iot-application>

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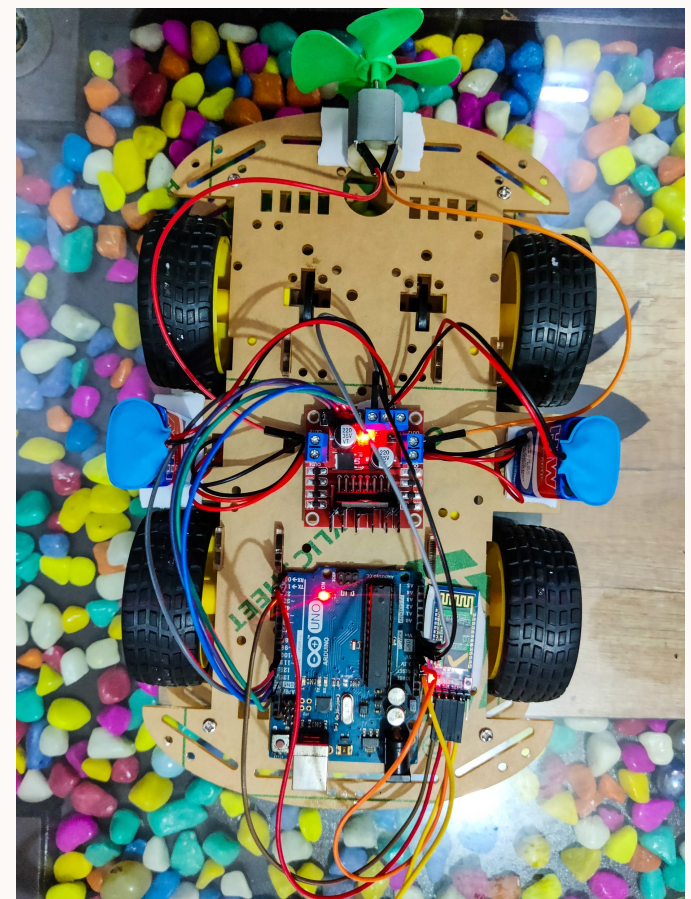
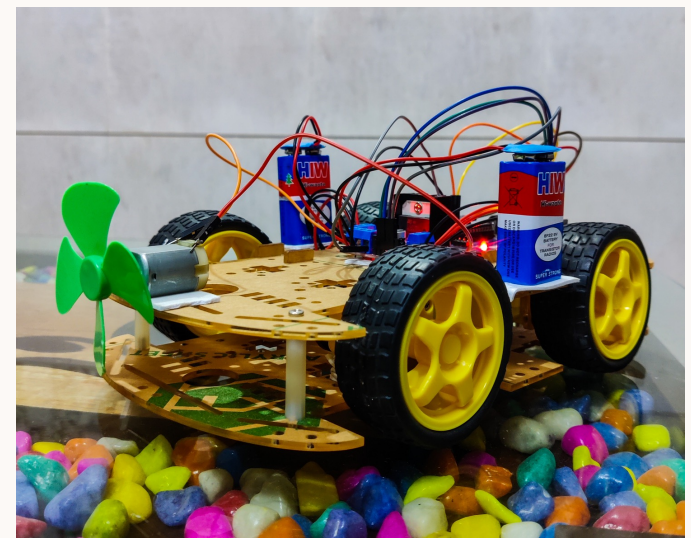
INTRODUCTION

In the past, cutting grasses in schools, sports tracks, fields, industries, hotels, public centers, etc., was done with a dagger. This manual cutting method is time-consuming as human effort is needed for cutting. There was also inaccuracy in the cutting level using the manual cutting system. Apart from all these old cutting methods, there is also a risk of an accident. The problems of the manual were meant to be overcome with the aid of this project (the construction of an automated lawn mower) which is used for cutting grasses to equal height or level for speedy cutting from a stationary place. This project lawn mower is also accident-free. Moreover, it reduces labor and the number of personnel needed in a particular operation.

CONCLUSION

With the safe, reliable, cheap, and user-friendly Bluetooth-controlled lawn mower, the Robotic Lawn Mower would be a must-have item in every household as it is time efficient and requires significantly less effort. That is why along with the various ages of users, this lawn mower can also be used by people who have disabilities and are unable to use a regular push or riding lawn mower. Moreover, it will reduce the air pollution caused by traditional lawnmowers that use fuel.

SNAPSHOTS



FUTURE SCOPE

- Solar panels can be used to make it more energy efficient.
- ESP8266 WiFi module can be used instead of Bluetooth, which is faster and has a higher range.
- Voice-enabled control can be installed to navigate the lawn mover's movements

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