INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X
Impact Factor: 6.078
(Volume 7, Issue 6 - V7I6-1207)
Available online at: https://www.ijariit.com

Converting biomass waste into biodegradable utility robot with L298N dual channel with IR sensor

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ABSTRACT

State of the Art and Utility: The Whole initiative projected has been planned for an eco-friendly recycling of the plant waste for general utility means like food packaging, show-pieces and even in creation of decorative drawing room art - pieces too with further bright expansion scopes. And later the residue left over through biodegradation (vermiculture methodology) to produce organic manure for use in home kitchen gardening and flowering pots. This way, plant waste has been targeted for better use and recycled for the most effective residue conversion. It is the most eco-friendly, convenient, cost-effective, less hazardous and a softly welcome. The Economics: The project has been considered taking care of availability rather scavenging of the plant waste employing usually practiced physical method and minimum of the state-of-the-art facility. A Significant Issue: The utilization of plant garbage is ethnically suitable, as the disposition after use is further involving the economic production of organic manure. The story line is a must welcome under prevailing contemporary climate resilience issues.

Keywords— *IR, L298N Dual, Robot, Biomass*

1. INTRODUCTION

Agriculture waste is considered as the most common type of anthropogenic organic waste, including many types of food residues along with vegetable waste and straw etc. The major chemical components of Agriculture waste are particularly cellulose stubble including remains of starch, proteins, fat and other Minor constituents. The continuous unending Urbanization and global population growth in many countries like ours has led to the increased production of the Agriculture waste and many a time it is directly discharged into the sewerage posing a serious problem and waste of the environmental resources too. Such a deterioration of the agriculture wastes results in toxic production of poisonous gases like ammonia, hydrogen sulfide, methane, sulphur dioxide, carbon dioxide and other harmful oxides of carbon, nitrogen, sulphur and phosphorus etc. All such chemicals are dangerous to our health and hygiene; they may cause many respiratory, circulatory and skin issues. Simultaneously, they may affect serious water, soil, and air pollution too. Effective composting of the agriculture waste is the need of the time, as such wastes contain high organic matter content, microorganisms and comprehensive nutrient profiling. Using degradation, utilization, and recycling of such biological waste has been an era during modern times since the last 4-5 decades.

Taking a serious note of this, an efficient and environment-friendly disposal of the agriculture waste becomes very important and has been undertaken during this projected attainable objective.

2. AIM OF THE WORK

Novelty: During this undertaking we have developed eco-friendly general utility materials from agriculture waste; including vegetable and straw waste which can be used in food packaging, showpieces and even in creation of decorative drawing room art-pieces too from plant waste with further bright expansion scopes in home decor and food serving fields. Here the required raw material is converted or reduced into fine powder form through physical methods as per suitable applicable specifications, moulded as per the destined objective and ultimately the leftover residue after use is subjected to biodegradable disposal. Inventiveness: The project has been planned and designed in such a manner even to provide an

alternate solution to plastic products used to some of an extent. Using this natural material, the product variability can be further exploited through particle size used. The intended material is moulded into various shapes and sizes, focusing on the need of the article to be produced. Such materials have been observed for good flexibility and found to have enough strength to resist or to provide strength to its products. Ultimately, even the left overused material has been subjected to recycling production of vermicompost manure.

Utility Aspects: The plant / agriculture waste is being utilized into eco-friendly production of utility and decorative articles, which after use and upon degradation can be subjected to further biodegradable degradation for economical production of manure.

Utility Products: The utility products made by us from this material include. a) Food serving items like Sauces, cups, Platters and allied articles. b) Lighting solutions viz., Wall light, Bed lamp, table lamp, Decorative lights, hanging lamps. c) Cosmetic Packaging including Cream, Gel, Lotion etc. d) Home Decorative - Photo frame, Show Pieces, flower Vases, Festival Decorative Items. e) Toys and game - Board Games, Puzzles, Playing Items.f) Hand made paper articles - Visiting Card Paper, Invitation Card Paper. g) End use – organic manure preparation used for kitchen garden, flower pot etc.

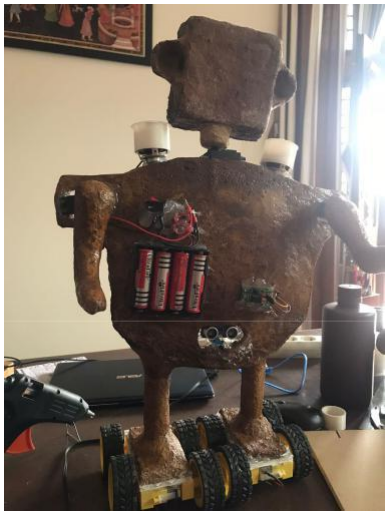
Economic viability: The raw material availability is common, regular, and easy to handle and subjected to further operations. This account for an eco-friendly and cost-effective manufacturing and management. It can be further exploited for more effective solid waste management of the organic agriculture waste at different levels of civic bodies. And as such, it also provides a rescue from the increasing pollution of our environment and atmosphere.

3. RESULTS AND DISCUSSION

An optical sensor converts light rays into electronic signals. It measures the physical quantity of light and then translates it into a form that is readable by an instrument. An optical sensor is generally part of a larger system that integrates a source of light, a measuring device and the optical sensor. This is often connected to an electrical trigger. The trigger reacts to a change in the signal within the light sensor. An optical sensor can measure the changes from one or several light beams. When a change occurs, the light sensor operates as a photoelectric trigger and therefore either increases or decreases the electrical output. An optical switch enables signals in optical fibers or integrated optical circuits to be switched selectively from one circuit to another. An optical switch can operate by mechanical means or by electro-optic effects, magneto-optic effects as well as by other methods. Optical switches are optoelectronics devices which can be integrated with integrated or discrete microelectronic circuits.

4. CONCLUSION

In this robot, the main function of IR sensor is to sense a human and flow them. In the robot, we are using L298N driver to control the 4 motors. Use N95 servo to handle the hands via Arduino mother board. We connect the new generation 2 speakers to deliver you 2-3 sounds according to IR sensor. Over all, this type of robot is one of the kind right now to deliver the biowaste, so we can conclude that Biomass Into Biodegradable Utility Machine Learning Robot with IR Optical Sensor is possible.



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