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"REVIEW ON DESIGN AND FABRICATION OF DC OPERATED CARRY BAG COLLECTOR"

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Abstract: Cleaning is very important to protect the human health. With the help of a Smart Vacuum Cleaner, the cleaning of the surroundings in a daily basis. Plastic pollution is a major environmental problem that harms ecosystems and biodiversity around the world. One of the main causes of this problem is single-use plastic bags, which take hundreds of years to decompose in nature and are often thrown into landfills or oceans. In response to this growing concern, new solutions have beendeveloped to combat air pollution.

Solar-operated carry bag collectors have surfaced as inventive solutions for tackling environmental issues linked to plastic pollution. This review paper offers an extensive examination of the different vacuum cleaners. Commencing with a comprehensive overview of the plastic pollution crisis and its adverse impacts on ecosystems, human health, and the economy, the document underscores the urgent requirement for sustainable alternatives.

Renewable energy is very important in today's world because the non-renewable energy sources we use will run out in the near future. The solar operated vacuum cleaner is a step towards saving non-renewable energy. Today, more than ever, we see and hear about the consequences of climate change.

We hear about more and more natural disasters in the media every day, from melting glaciers to rising sea levels, from climate change to rising temperatures.

This paper offers study of different vacuum cleaners which has been already developed and need of eco-friendly vacuum cleaners.

1. INTRODUCTION

We are all looking at how we waste and waste in our homes and communities. Since ancient times, waste disposal has been carried out inadequately even in villages, towns or cities. However, today, due to the increase in population, changes in lifestyle and nutrition, the massive expansion of business, transportation, communication and business infrastructure, and the fact that the use of modern technology is not limited, waste and waste generation have become alarming. In fact, waste management has become a major challenge with serious consequences not only for human health and well-being, but also in general.

The waste management process entails the safe and efficient collection of garbage, solid waste recovery, and disposal of undesired substances. The goal of waste management is to reuse, reduce, and recycle garbage. It also employs a variety of cutting-edge waste decomposition technologies, which aid in pollution reduction. Modern waste management, for example, placing garbage in lined holes and decomposing it using microorganisms. Waste management is critical for worldwide cleanliness and sustainability initiatives.

The expanding world population and increased globalization have resulted in an increase in trash volume, propelling the waste management industry forward. Furthermore, unlawful dumping, increased environmental awareness, and increased pollution have all contributed to the sector's strong growth. Furthermore, rising industrialization in emerging nations, which generates massive amounts of trash, propels the waste management industry forward. However, rising recycling costs, landfill fees, and fuel prices are impeding the market's expansion.

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In response to this difficult problem, new solutions are urgently needed to reduce plastic waste and promote sustainability. One solution is the development of a solar-powered bag collection system that uses renewable energy to store and manage plastic bags in public spaces.

The Solar Tote Bag Collector offers an alternative to traditional waste management by using solar energy to speed up the collection process and make it easier to dispose of plastic bags.

2. LITERATURE REVIEW

[1]. The regular floor cleaning machines is most generally utilized as a part of airplane terminal stages, railroad stages, healing centres, transport stands, and shopping centresand in numerous other business places. These gadgets require an electrical vitality for its activity and not easy to use. In this work, demonstrating and investigation of the floor cleaning machine was finished utilizing appropriate financially accessible programming.
[2]. "Design and Development of Tricycle Operated Street Cleaning Machine" – He has developed the street cleaning machine by tricycle operated. In this research article. He framed a model especially for rural area. He concluded that the cleaning is less effective in streets".
[3]. "This module of automatic floor cleaning machine by micro controller is run to clean the floor and sweeps the dust away. In this the module a remote-controlled car has gear motorist attached at front axis in between the front wheels, this motor is attached with a cleaning brush at front, and the gear motor is connected to 12volts battery and the remote car is attached with 9volts battery.
[4]. "This Paper reviewed the requirement of a residence Cleaning Automatic robot. For keeping time there's a requirement of programmed system that cleans alone without person interventions. Also, they considered how precisely to help those that have physical disabilities. Because that they had to induce this done, they needed a cleaning system that may add accordance from what we are saying, thus supporting a physically someone"
[5]. This existing system represents the room cleaning robot which has map storage and wall following functionality and all this implemented using Arduino Uno. With the combination of sensor assembly. algorithm and the intelligent dust cleaner shape make him feasible and effective for all type of environments. It has much more benefits over conventional household vacuum cleaners such as there is no need of personal clean the room, office etc. and fulfilling the main purpose for cleaning the room automatically.
[6]. They have developed a primary goal of this assignment is to plan and execute an Automatic Floor Cleaning Robot using Arduino UNO, Bluetooth module, Power semiconductors, Motor ShieldL293D, Water pump, Servomotor, and to achieve the goal of this enterprise. This project will include few client-friendly initiatives. This paper coordinates the advancement of a cleaner programmable platform. Currently, a significant emphasis is placed on the field of mechanical technology in order to reduce human endeavours. The primary goal of this research work is to develop a cleaner that is totally programmed to do dry and wet cleaning as well as UV cleansing.
[7]. This module of automatic floor cleaning machine by micro controller is run to clean the floor and sweeps the dust away. In this the module a remote- controlled car has great motorist attached at front axis in between the front wheels, this motor is attached with a cleaning brush at front, and the gear motor is connected to 12volts battery and the remote car is attached with 9V battery.
[8]. The regular floor cleaning machines is most generally utilized as a part of airplane terminal stages, railroad stages, healing centres, transport stands, and shopping center sand in numerous other business places. These gadgets require an electrical vitality for its activity and not easy to use. In this work, demonstrating and investigation of the floor cleaning machine was finished utilizing appropriate financially accessible programming.

3. IN THE LITERATURE REVIEW, THE CONTRIBUTIONS OF VARIOUS AUTHORS ARE SUMMARIZED BRIEFLY IN A TABULATED FORMAT.

Title, author, and year	Concepts, approach, methods, analysis adopted	Inconsistencies and gaps	Improvements
Design of a Single-Phase BLDC Motor for a Cordless Vacuum Cleaner Considering the Efficiency of Airflow,	Adopted approach is CFD analysis followed by the air flow measurement	The BLDC motor used the electrical commutating mechanism rather than sequence of mechanical	Air flow structure focusing in the efficiency through the optimum design by taking care of

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Hwang Hongsik and Cho Jeonghyun and Hwang, Seon-Hwan,2019		commutators and the brushes of the universal motor	the housing structure and motor core.
Virtual Model of a Robotic Vacuum Cleaner RADU Stefan,2018	Designing a virtual model of a 3D robotic vacuum cleaner, by using solid works application.	Size of the suction power of the vacuum cleaner is small that cannot cover large spaces.	The features of high efficiency air filter
Design and Fabrication of Mini DC Vacuum Cleaner, Tun,n. (2019)	A DC controlled vacuum cleaner using axial flow fan that is efficient to generating a suction pressure of (0.17- bar) and eco-friendly.	Axial flow fan which has a precise angle to optimize the amount of air it can displace	Centrifugal fans are more useful in extract air at right angles and spin the air outwards to the store by deflection and force of centrifugal.
Development of Arduino Program Code for Autonomous Smart Vacuum Robot, D. C. PATEL and Dr. H. S. Patil,2017	Developing the cleaning device facilitate effective by using Arduino to produce a robot that can do the cleaning purposes.	The sensor used to avoid obstacle is autonomous motion used IR sensor	The process of avoiding obstacle and auto path design with simultaneous cleaning feature
Bluetooth Based On Automatic Floor Cleaning System, C.R.Balamurugan*, P.Kirubha, S.ArunKanna, E.R.Hariprasath, C.Anupriya,2018	The conditions needed for floor cleaning in water quantity, and fan, cleanse. With wheeled type machine with movement control.	The module used a LAN wires connected that it connected to the controller and connection of the 12V supply. That might cause a lack of reach of the cable and limited movement	As it , support Bluetooth connection and this module is more suitable for wireless connections

CONCLUSION

DESIGN AND FABRICATION OF DC OPERATED CARRY BAG COLLECTOR

In this review paper we have studied importants of waste management , the solar operated carry bag collection represents a solution to one of the most pressing problems of our time. By using renewable energy and promoting responsible consumption and waste reduction, these new systems provide a path to a clean, healthy and sustainable future for everyone.

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[4] “Residence Cleaning Automatic Robot” by Abhishek Pandey [2020].
[5]. Adeel Saleem; Atif Iqbal "Design and Implementation of an Intelligent Dust Cleaner Robot for Uneven and Nonstruc-IEEE”
[6]. R. Gopalakrishnan "Design and Development of Controller Based Automatic Ground Cleaning Robot”
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