Patent Search

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Abstract:

ABSTRACT: Title: AUTOMATIC TRASH SORTER USING ARDUINO AND SENSOR Waste segregation, the separation of organic and non-organic waste materials, is a crucia sustainable waste management. By separating these streams at the source, we unlock numerous environmental and economic benefits. Organic waste, primarily foo yard trimmings, can be composted into nutrient-rich fertilizer, diverting it from landfills and reducing methane emissions. Non-organic waste, which includes recyclab plastics, paper, and metals, can be effectively recovered and reprocessed into new products, conserving resources and reducing reliance on virgin materials. This thes an Arduino Uno controlled waste segregation system utilizing ultrasonic and infrared sensors for bin level detection and material type identification, promoting efficie management. In conclusion the development of an automatic garbage sorter using an Arduino Uno controller is achieved. The goal was to segregate organic and inor from general rubbish. By employing ultrasonic sensors and potentially infrared sensors, the system aimed to identify different materials like tins, plastics, aluminum f organic waste as they enter the bin. Testing with various waste types has shown promising results, with the sorter achieving an 80% accuracy rate in correctly classifyi materials.

Complete Specification

Description:DESCRIPTION:
Field of the invention:
[0001]
The "Automatic Trash Sorter Using Arduino and Sensors" is a smart waste segregation system designed to efficiently classify and manage household and municipal waste at the source. The system leverages an Arduino Uno microcontroller as its central unit, coordinating inputs from various sensors to achieve precise waste sorting. It incorporates ultrasonic sensors to monitor bin levels, ensuring timely notifications for waste collection. Infrared sensors and metal sensors distinguish between dry and metallic waste, while moisture sensors identify wet waste by measuring water content. Waste is sorted into designated bins through a servo-controlled mechanism, offering a seamless and automated process. The system's LCD display provides real-time updates on the waste classification process, while a built-in Wi-Fi module ensures smart connectivity, sending alerts to municipal authorities when bins approach capacity. The modular design includes critical components like power supply boards, motor drivers, and DC motors, ensuring smooth

View Application Status

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