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Automatic Metal Waste Separator System in Malaysia (Conference Paper)

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Abstract

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Metal recycling is an issue that needs attention and should be practiced by people as it has many advantages to human and Earth. In order to get a metal from Earth, the process called mining are needed where it can harm our natural resources due to depletion of the area to be mined. If the process is not controlled, most of the areas on Earth will have huge excavation holes. So, people should be responsible to prevent this from happening to preserve the environment in a good quality by recycling the metal material. By metal recycling, it can save an energy and resources as it can reduce the demand for raw materials, hence maintain the natural resources for the future. The proposed automatic metal waste separation system is intended to ease the people to separate the waste material. Besides, it will make the metal recycling industry work easier because the metal waste is already isolated at garbage collection side. The purpose of the project is to design a system to separate the metal recyclable household waste automatically and record the data waste collected. There are total of four detectors used to separate the non-metal, steel, copper and aluminum metal waste. The average time used to complete metal separation process by using the proposed prototype is 14.5 seconds. This project includes a mechanical part, programming part and an electronic design. The system will be programmed using Arduino Mega as a microcontroller to control all the electronic component in the system. © 2018 IEEE.

SciVal Topic Prominence

Topic: Recycling | electronic equipment | waste e-waste

Prominence percentile: 99.735

Author keywords

- Bar magnet.
- Color sensor
- Conveyor belt
- Inductive sensor
- Metal detection
- Metal recycling
- Waste separation

Indexed keywords

- Engineering controlled terms:
- Belt conveyors
 - Computer programming
 - Inductive sensors
 - Natural resources
 - Process control
 - Recycling
 - Separation

- Engineering uncontrolled terms
- Bar magnets
 - Color sensors
 - Conveyor belts
 - Metal detection
 - Metal recycling
 - Waste separation

- Engineering main heading:
- Metals

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