https://www.youtube.com/watch?v=aV5PCnAj5x0

AUTOMATED WASTE SEGREGATOR

Rapid increase in volume and types of solid and hazardous waste due to continuous economic growth, urbanization and industrialization, is becoming a burgeoning problem for national and local governments to ensure effective and sustainable management of waste. It is estimated that in 2006 the total amount of municipal solid waste generated globally reached 2.02 billion tones, representing a 7% annual increase since 2003 (Global Waste Management Market Report 2007). The segregation, handling, transport, and disposal of waste needs to be properly managed to minimize the risk to the health and safety of patients, the public, and the environment. The economic value of waste is best realized when it is segregated. Currently, there is no such system of segregation of dry, wet and metallic wastes at the household level. This project proposes an Automated Waste Segregator (AWS) which is a cheap, easy to use solution for a segregation system for household use, so that it can be sent directly for processing. It is designed to sort the refuse into metallic waste, wet waste and dry waste. The AWS employs parallel resonant impedance sensing mechanism to identify metallic items, and capacitive sensors to distinguish between wet and dry waste. Experimental results show that the segregation of waste into metallic, wet and dry waste has been successfully implemented using the AWS.

The project makes a use of arduino microcontroller which is loaded embedded c language.IR sensor is used to detects dry waste, wet sensor is used to detects the wet waste and also metal sensor is used to detects the metallic waste. Using servo motor to rotating the waste bins. Experimental results show that the segregation of waste into metallic, wet and dry waste has been successfully implemented using the AWS. The status of the project will display on LCD.

Objective:

- It can segregate the three types (metallic waste, wet waste and dry waste) of wastes.

Components:

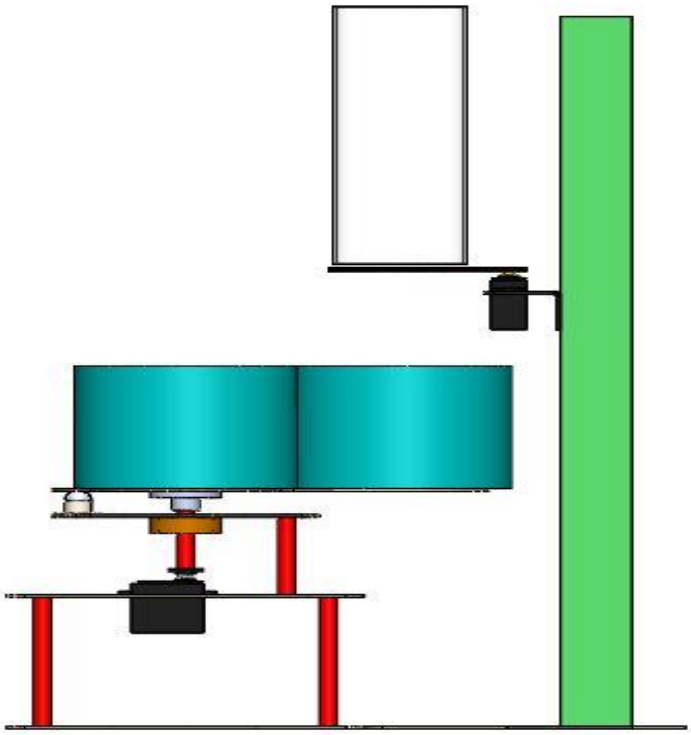
- Power Supply.
- Arduino uno.

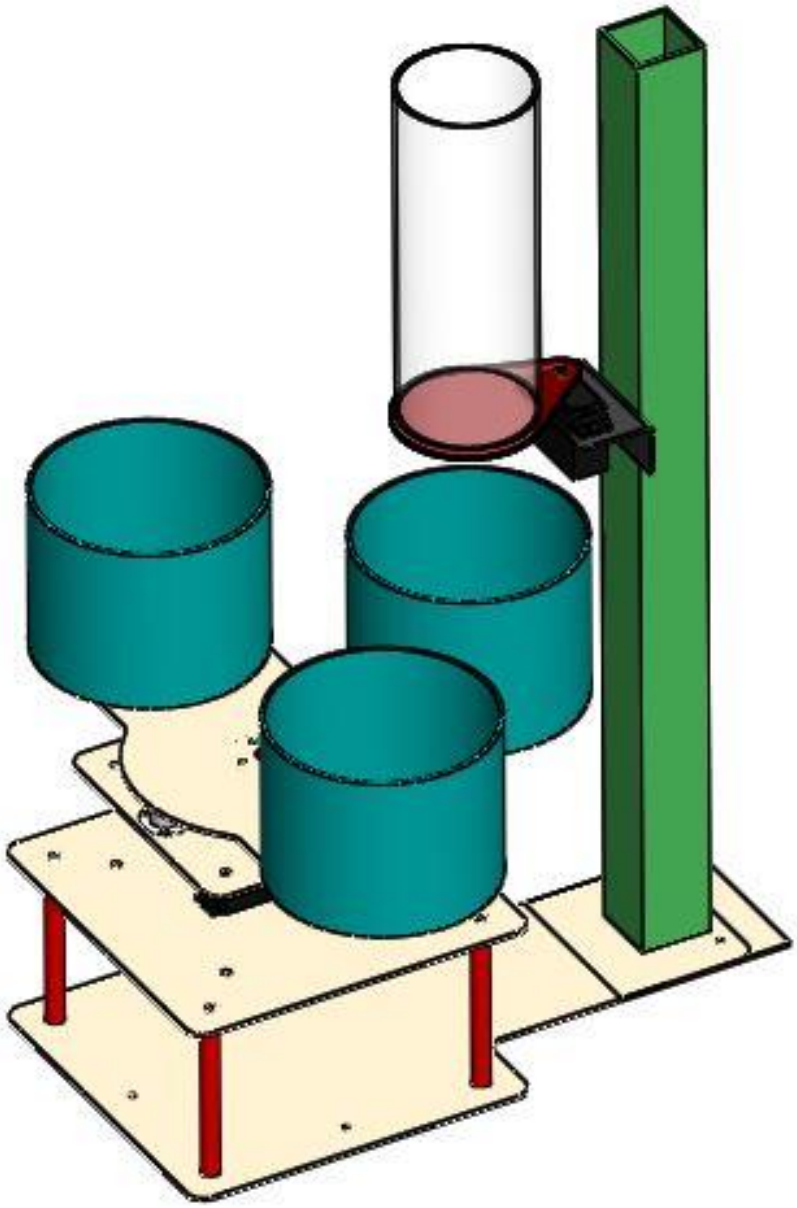
- IR sensor.
- Metal sensor.
- Wet sensor.
- LCD display.
- Servo Motors.

Software's used:

1. Arduino IDE studio compiler for dumping program.
2. Express SCH for Circuit design.

Block Diagrams:





Advantages:

- Sorting of waste at the primary stage will make the waste management more effective and fruitful.
- Giving way to cleaner environment.
- Eco friendly.
- Lower initial investments.