

## GSM BASED AUTOMATED GARBAGE TELLER MACHINE FOR METAL AND PAPER RECYCLE

Sheetal Sudame<sup>1</sup>, Dr. V.G. Girhepunje<sup>2</sup>

<sup>1</sup>student, Department Of Electronics (Communication) Engineering,

Priyadarshini College Of Engineering, Nagpur, India

<sup>2</sup>professor, Department Of Electronics (Communication) Engineering,

Priyadarshini College Of Engineering, Nagpur, India

### Abstract

*Modern world meets lots of challenges that includes Smart waste management system. It is become matter of big concern if proper disposal system is not managed. Managing waste effectively and recycling efficiently, a nation can ahead one step forward. By using the proper recycling system, the curse of waste will turn into blessings for the civilization. The conventional waste management system will be transformed into SMART system. Big volumes of garbage thrown away and the methods used to store it cause air, water, and soil pollution. Fortunately, people can count on other methods to reduce the quantity of produced litter. An answer is recycling by re-using the materials. Currently, the traditional way to separate waste is to use different containers for each kind of waste separating trash manually, which does not always work.*

### Introduction

In e-waste, collectors (collecting e-waste from all kinds of resources) and processors (disassembling and disposing e-waste) play key roles and have connections based on interests. This project present a leader (collector)-follower (processor) dynamic game model with profit maximization purpose. When the supply and demand are relatively clear, major risk for the processor comes from the recycled raw material is sold to producer is not enough to compensate for buying, processing and possible land filling e-waste, the processor is unable to make profit. So this project propose an option contract in which the collector will buy raw material from the

processor at a fixed price in the future. This option will guarantee the processor Profitable and increase the effort to order more e-waste from the collector. This show that this contract is improving in the majority of cases. Our results also indicate that the profit improvement to both parties, and the supply chain is substantial.

### Objectives

- This project aims to improve the systems for the collection of recyclable waste metals.
- This project is intended to improve the efficiency of these system as well as make them closer to people by promoting recycling metal materials.
- Save your precious money.
- If done efficiently, it leads invariably to the better management of materials and inventory.

### Challenges of Existing System

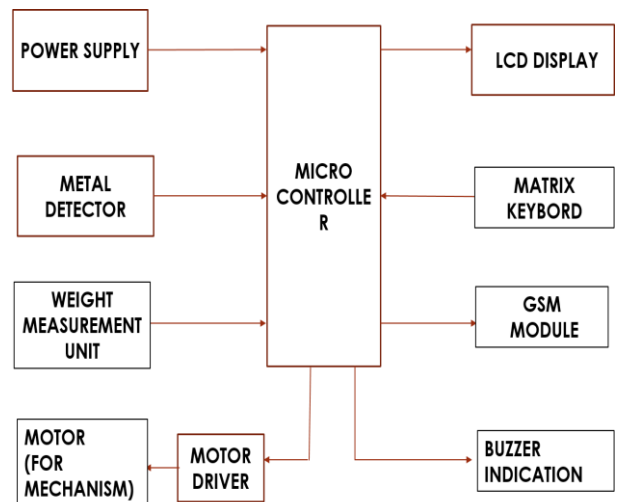
- The present system only waste management based system.
- The papers shows waste separation, IOT based monitoring.
- The main focus of all papers is only for management of waste materials i.e. plastic bottles not making value and money.

### Advantages of Proposed System over Existing System

| Existing System         | Proposed System                                  |
|-------------------------|--|
| Waste Monitor only      | Metal waste collector                            |
| Waste return zero money | Waste return money                               |
| Waste recycle is costly | Metal waste recycle useful for steel industries. |

the Garbage collector machine. Machine collects garbage and check it is metal or not. If metal then weigh the metal and shows weight value on LCD screen. Then next option shown on LCD is to type your mobile number, user type their mobile no. and then machine send unique code according to weight. And user redeem code in mall, super market, etc.

### Block Diagram



### Proposed Methodology

The main advantages of this system is to generate value from the waste material like metal waste and old newspaper. An advance machine like token machine or ATM machine is proposed. Garbage collector machine may be installed for the garbage collection throughout the public places. People can comfortably put the waste into

### Conclusion

- Customers can earn the profit
- Best way to recycle metal and paper waste

### Future Scope

- We can add a QR Code to scan by replacing keypad.
- We can add a Solar Panel by replacing Transformer.

## References

- [1].S. M. Al-Salem, A. Antelava, A. Constantinou, G. Manos, and A. Dutta
- [2].R. K. Singh and B. Ruj
- [3].D. M. Nguyen, T. V. V. Do, A. Grillet, H. H. Thuc and C. N. H. Thuc
- [4].C. Zhang, Guangming Daily, 2011 (4)
- [5]. X. Lin, Worker's Daily, 2011 (6)
- [6]. X. Wang, M. Kang, X. Jin, Machine Tool & Hydraulics, 2011(7):18-20
- [7]. X. Lai, J. Liu, S. Li, Machine Tool & Hydraulics, 2011(3):86-88
- [8]. S. Han, Y. Guo, H. Fu, ARM Microprocessor Application Development Technology Explanation and Example Analysis, Beijing: Tsinghua University Press, 2007
- [9]. Z. Xie, Integrated Design of Electronic Circuits, Wuhan: Huazhong University of Science and Technology Press, 2006
- [10]. Y. Li, Arm Embedded Linux system development From Entry to Master(Tsinghua University Press, Beijing, 2007)
- [11]. T. Sun, Manual of Embedded Design and Linux Driver Development (2nd)(China Electric Power Press, Beijing, 2007)
- [12]. S. Malmir, B. Montero, M. Rico, L. Barral and R. Bouza
- [13].R. Miandad, M. A. Barakat, A. S. Aburiazza, M. Rehan, I. M. I. Ismail and A. S. Nizami
- [14]. European Union Council Directive, "1999/31/EC of 26 April 1999 on the landfill of waste.
- [15]. Paris Climate Change Conference, "United Nations Framework Convention on Climate Change